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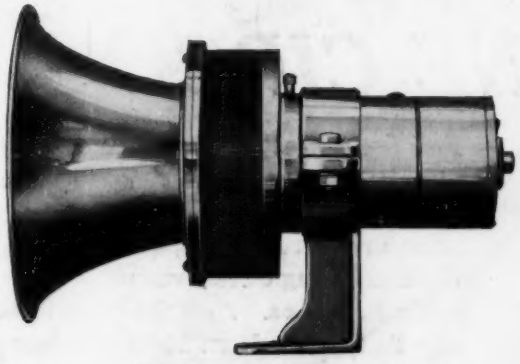

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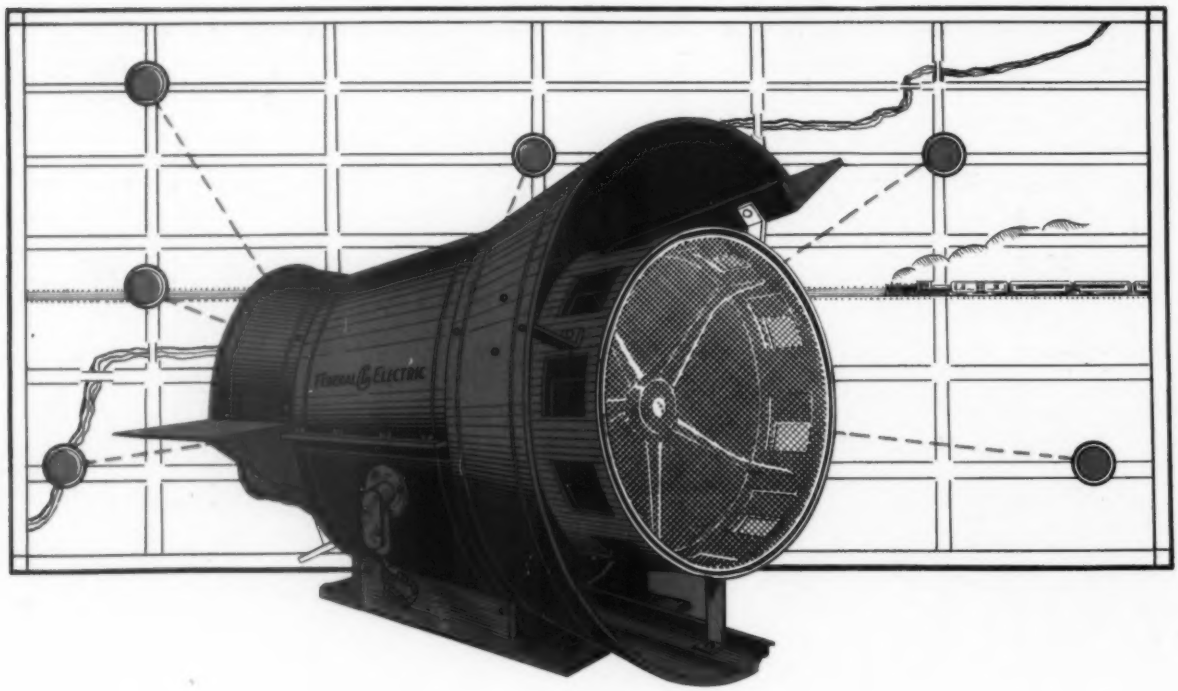

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We wish you a Merry Christmas and a Happy New Year.

Your friends,
Julia and Irene and Walter Junior."

The Publishers

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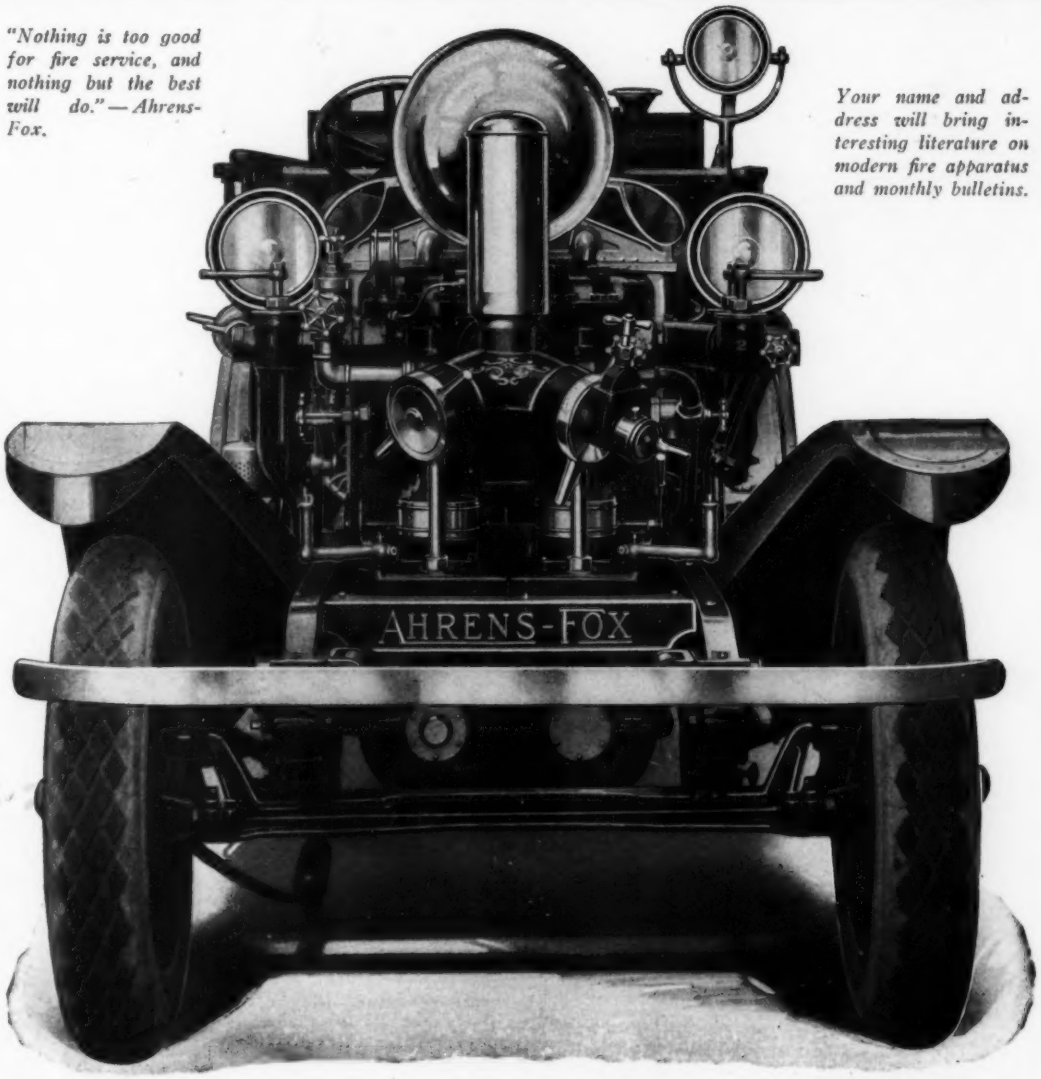

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Atlas Flour Mill Fire at Milwaukee, Wis., Dec. 10, 1926

D-711-L

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Capt. John Burke, who is as proud of the performance of his Waukesha 6 cylinder Fire Pumper Engine as we are, supplied the information about Pumper No. 1's performance. Asst. Engineer Joseph Gromowski, who had charge of it during the fire, said: "We had no trouble during the run and the engine was wide open all the time. We used only 1½ gallons of oil and 120 gallons of gasoline." Milwaukee has nine Waukesha engines in use now. If you would like to know why they give such good performance write for Bulletin No. 539 on Pumper Engines.

D-714-L

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FIRE ENGINEERING

(A Consolidation of Fire and Water Engineering and The Fire Engineer)

The Journal of the Fire Protection Profession

VOLUME LXXX FEBRUARY 23, 1927 NUMBER 4

The Latest — A Fire Patrol School

Chicago Fire Patrol Organizes School of Instruction for Officers and Men—A New and Unique Institution in This Field

By FRANK C. McAULIFFE, Chief of Patrols, Chicago Fire Insurance Patrol

THE following article describes a unique departure in the field of fire patrol which will undoubtedly have a far-reaching effect in increasing the efficiency of this branch of fire service. No doubt the Chicago school, the first of its kind, will later be followed by similar institutions in other cities which have adopted systems of salvage at fires:

The attendance at the first term of the School of Instruction for the Officers of the Chicago Fire Insurance Patrol has been very gratifying, as we have had, in addition to the officers and members of the Patrol, many of the officers of the Chicago Fire Department, together wiht several insurance men and others interested in fire prevention, control, extinguishment and salvage.

The Up-to-Date School Rooms

In the new and modern patrol house at the corner of Hill and Orleans Streets, besides the usual space allotted for the apparatus, the repair shop and the home for the patrolmen, there is the first drill school room of its kind in the country, or in fact, in the world. The school rooms contain a complete wet and dry sprinkler system, fully supervised and having all of the alarm transmission instruments. There is also an automatic fire alarm system and city fire alarm system, available for demonstration to the students. Various kinds of private fire protection equipment, such as hand extinguishers, etc., will also be a part of the apparatus used in this school.

All Members Must Attend School

Each company of the corps is required to attend school in a body twice each year. The companies are marked and graded in their efficiency as displayed at the school. In order to increase the interest of the members in the work, we have arranged for a time drill, of which the following is a description:

How Time Drill is Arranged

The school room is arranged with a view of presenting conditions as found at an actual fire. This is accomplished through the use of especially built boxes, knock-down tables and shelves, together with a set of living room furniture. To cover the entire layout requires, with the necessary catch-alls, about twenty covers. The company starts from the apparatus room, forces entrance through a special door built for the purpose. The sprinkler is in operation in the test room, and a part of their duty is to shut off this sprinkler with tongs. A fire alarm box for sending, together with a receiving instrument is conveniently located, and a patrolman is required to send in the code signal for help. The company must, in addition, have their carbic light burning and construct a chute which is part of their regular equipment. The best time to date for this particular work has been seven minutes and forty-five seconds for one officer and six men. Time is deducted for errors after the work is completed.

A course of instruction for watchmen is contemplated in the near future.

Subjects Treated in the Officers' School

Preceding each session of the Officers' School of Instruction there is held an officers' conference, after which patrolmen who are seeking promotion are admitted. Each class is to be held at 9:30 a. m. sharp, and tardiness of the students is not tolerated. All officers off and on duty are expected to be present, unless excused by the chief.

The subjects which have been or will be treated at the various sessions of the officers' school, which began on January 4 last, are as follows:

Object of the School.
Building Inspection in a Manner to be of Benefit to the Chicago Board Inspection Department.
Sprinkler Equipment.
Automatic Fire Alarms & Supervisory Service.
Private Fire Protection Equipment (exclusive of sprinkler equipments.)
Modern Fire Fighting and Description of Fire Fighting Equipment.
Fundamentals of Fire Insurance and Rating.
Arson and How We Can Assist the National Board in the Detection and Prosecution Thereof.
City of Chicago Fire Prevention Ordinances.
Chemistry of Fire: Dangerous Chemicals and Acids, Spontaneous Ignition, Combustion.
First Aid and Artificial Respiration Demonstration of Smoke Masks and Inhalators.
Adjustment of Losses and How We Can Cooperate to Reduce Claims.
Value of Discipline and Training.
Reconditioning Salvage.
Chemistry of Fire—Explosions and Their Causes.
City of Chicago, Fire Prevention Ordinances.
Review of Patrol Inspection.

Drills and Instructions for the Company School

The following is a list of the drills and instruction given at the Drill School of the Fire Insurance Patrol, giving an idea of thoroughness of the course through which the men have to go:

1. Proper methods of making catch-alls. How to be governed in whether or not such a procedure is necessary.
2. Covering goods on counters, tables, etc., method of rolling edges to prevent water running under covers when more than one cover is necessary to complete the work. Importance of of clean covers. How to cover delicate fabrics and materials easily soiled. Prevention of water damage to bottom of dresses in racks or other materials close to the floor when sweeping water.
3. Drill in covering shelves. Pulling stock from walls to prevent damage caused by water following the wall. Care to prevent injuries to men performing shelf work. Method of catching water following vertical pipe openings.
4. Drill in covering large stocks in piles. Proper laps to make arrangement of pitch. Arrange stock to be covered using the least number of covers possible to perform proper coverage. Explain the difference in the width and length of covers and how to use to the best advantage. How to open the cover to spread in the width or length.
5. How to cover belt driven machinery. Importance of covering elevator machinery located in the basements, when sweeping water down elevator shafts. Methods of draining water from basement. Use of gasoline pumps for elevator and boiler pits not equipped with drains.
6. Care of plumbing and boilers in freezing weather when impossible to heat building partially destroyed by fire. Care of fruits and vegetables and other stock susceptible to freezing.
7. Instruction and drill in covering household furniture. Handling of rugs, pictures, drapes, curtains, clothing in closets and other hangings. Proper method of bunching furniture before covering.
8. Care of covers at fires:
   1. Throwing covers from windows down elevator shafts, etc.
   2. Spreading catch-alls over glass or other debris and walking in covers unnecessarily.
   3. Using grommets when nailing stock covers.
   4. Bailing catch-alls with wood scoops to prevent tears.

5. Spreading covers under dropping fire or in places where they may be burned.
9. Building chutes—Improvised and standard equipment. When and how to use.
10. Opening doors—Methods used on different types of doors. Importance of opening doors efficiently with small damage. Instruction in opening elevator doors.
11. How to run house elevators.
12. Covering roofs—Flat roofs, gable roofs and skylights. Instruction in raising roofing material, manner of fastening covers and properly pitching to drain.
13. Care and use of carbic lights.
14. Sprinkler instructions—Drill in using tongs, replacing heads, shutting off and draining. Special instructions in wet and dry systems, supervision, source of water supplies and care and maintenance.
15. Cutting holes in floors—Proper method. When necessary and where to cut. How to handle an axe and care of an axe.
16. First aid:

Bandaging	Stretcher
Splints	Artificial respiration
Tourniquet	Fireman's carry and
Burns	Rescue work

17. Care of covers in quarters. Drill in patching and mending rubber and canvass. Instructions in washing, drying and general care to prevent deterioration.
18. Use of different types of portable fire extinguishers. Instructions in their maintenance.
19. Use of inside standpipe lines.
20. Fire box drill on Patrol Code.
21. Automatic Fire Alarm Systems. How they operate.
22. Parade Drill.
23. House Watch Duties.
24. Fire Water Instructions.
25. House Discipline and Courtesy.
26. Roll Call and Inspection.
27. Fire Department Knots.
28. Handling of streams.
29. Raising of ladders.

Eastern Regulars to Have Big Party

From present indications, the Eastern Regulars' trip to the Portland, Ore., convention of the International Association of Fire Chiefs in August, promises to be a record-breaker, according to Fred. Benson, who is forming the party and looking out after all arrangements as heretofore.

More than ninety have already made definite reservations, and at the rate they are coming in it is expected that the special train will be booked to capacity months in advance.

The trip this year takes in Yellowstone and Jasper National Parks, Lake Louise in the Canadian Rockies, and many other interesting points, including a boat trip across the Great Lakes from Duluth to Buffalo. It offers a travel opportunity of a lifetime at unusually low cost. Leaving New York July 31, the party arrives in Portland August 8, the night before the convention opens, returning to New York August 23.

Among those already booked are:

Chief and Mrs. John Kenlon, New York; Chief and Mrs. D. E. Johnson, Bridgeport, Conn.; Chief and Mrs. W. F. Noble, New Britain, Conn.; Chief and Mrs. W. F. Ingold, Edgewater, N. J.; Chief and Mrs. W. F. Lutz, Wilmington, Del.; Chief and Mrs. J. F. Gibson, Mt. Vernon, N. Y.; Chief and Mrs. G. Bowker, Passaic, N. J.; Chief and Mrs. John C. Moran, Hartford, Conn.; Chief and Mrs. Geo. Hedden, Buffalo, N. Y.; Chief and Mrs. H. H. Heitman, Waterbury, Conn.; Chief and Mrs. Harry Francis, New Brunswick, N. J.; Chief and Mrs. Ross B. Davis, Philadelphia, Pa.; Chief and Mrs. E. E. Saunders, Lowell, Mass.; Chief Wm. Ziegler, Hackensack, N. J.; Chief Joe Murphy, Kingston, N. Y.; Chief Chas. Fisher, Ellenville, N. Y.; Chief J. Gibbs, Montclair, N. J.; Chief Thos. Coyle, Paterson, N. J.; Chief Wm. Seeley, Middletown, N. Y.; Chief August Gerstung, Commissioner and Mrs. Wagner and daughter, Commissioner and Mrs. Reuter, Commissioner Chandler and Former Commissioner and Mrs. Patterson and daughter, all of Elizabeth, N. J.

Any chief or others in the East interested in joining the party should write to Fred. Bensen, c/o Eureka Fire Hose Co., 50 Church St., New York.

Bill to Increase Kansas City, Kans., Pay—A bill is before the legislature to increase the salary of the firemen in Kansas City, Kans., to a minimum of $150 a month for firemen and $3,600 a year for the chief. If passed, this will be the first pay increase since 1920.

Minneapolis to Purchase Water Tower—A recommendation was made that Minneapolis, Minn., purchase a water tower to replace the one that was destroyed by a falling wall at a recent fire.

Noted North Carolina Fire Officer Dead

Captain James D. McNeill, three times president of the National Firemen's Association and head of the North Carolina state firemen's association for twenty-six years, died at his home in Fayetteville, N. C., February 9th, following an illness of pneumonia. He would have been seventy-seven years of age March 4th.

"Captain Jim" was a picturesque figure in politics as well as in the field of fire fighting. He was mayor of Fayetteville for six terms and represented Cumberland County in the North Carolina state senate in 1901. He was chairman of the Democratic executive committee of the county in the stormy years from 1890 to 1898. He was one of the organizers of the famous "Red Shirts" which was formed to deliver the South from carpet bag rule in the days following the Civil War.

From young manhood Capt. McNeill was a fire-fighter. His most prized honor was the election to the national presidency. He was elected in 1904, over Chief Croker of New York, and reelected in 1905 and 1906. After his retirement from the state presidency he was made president emeritus of the State body.

The greatest gathering of prominent fire-fighters in the history of North Carolina attended the rites. All business was suspended in Fayetteville during the funeral. The services were held in St. John's Episcopal Church. During the obsequies the ancient town bell tolled from the tower of the old market, and the city fire siren sounded as the body was lowered into the grave.

D. G. SPENCER.

Old Massachusetts Club Officer Still Active

F. O. Whitemars, in apite of his seventy-two years of age is still an active fireman in East Braintree, Mass. He has been a fireman for fifty years, has served as sergeant-at-arms of the Massachusetts Fire Chiefs' Club for thirty-one years, and has been head of the East Braintree, Mass., department for a number of years. The fire buckets and the lanterns in the picture are more than a hundred years old.

Fond du Lac, Wis., to Purchase Pumper—Fond du Lac, Wis., will soon invite bids for the cost of supplying a new pumper to the city. Possibly two new pumpers may be purchased.

Flushing, Mich., to Have Pumper—A pumper is to be purchased for Flushing, Mich. Half of the expense will be borne by the town and one-half by the farmers within a ten mile radius.

Lindahl Re-Elected Chief of Turlock, Cal.—Charles V. Lindahl was unanimously re-elected chief of Turlock, Cal. After the business part of the meeting, he surprised the men by inviting them to a dinner at which many of the firemen spoke.

Utah May Have State Fire Marshal—A bill has been introduced in the state legislature of Utah to provide for a state fire marshal. The bill enlarges the power of the state insurance commissioner and gives him control and supervision of the regulations provided for the fire marshal.

Division Wall Fails to Hold Hotel Fire

Faulty Construction Permits Fire to Pass from One Section of Building to Another—Adjoining Floor Beams to Blame

FIRES in converted buildings are always troublesome, due principally to the disregard of safety measures in converting the buildings and the usual inflammable type of construction found in such structures.

The fire described in this article of the series on administration well emphasizes what a problem the fire department must face in handling a fire in such a building.

The city in which this fire occurred is located in the central west. It has a modern department consisting of 12 engine companies, 4 ladder companies and 3 combination chemical and hose companies.

In addition to the apparatus of these companies there is one steam fire engine held in reserve. All pumpers are of the triple combination type, consisting of pumps of from 500 to 900 gallons capacity and fitted with chemical tanks and hose bodies.

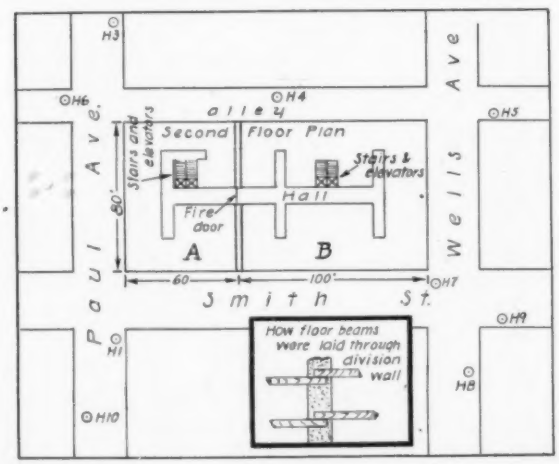
The response to alarms in the department is as follows: (Numbers assigned to various engine companies are fictitious but they serve to simplify the description of the operations.)

First alarm: Engine Cos. Nos. 1, 2, 3, and Truck Co. No. 1.

Second alarm: Engine Cos. Nos. 4, 5 and 6 and Truck Co. No. 2.

Third alarm: Engine Cos. Nos. 7, 8, and 9 and Truck Co. No. 3.

The fourth alarm is known as the general alarm and brings, in addition to the apparatus above named, Engine Cos. Nos. 10, 11, and 12 and Truck Co. No. 4.



The steamer and combination chemical and hose companies are secured at this particular box by special call only.

The water supply is excellent, there being a pressure of around 30 to 40 pounds at all times in the mains and a liberal supply of hydrants in the neighborhood of this fire, which occurred near the center of the high value district.

Description of Building

The building in which the fire occurred was a four-story brick and joist constructed hotel.

Originally, when this building was constructed, it was divided into two separate buildings by a twelve-inch division wall of brick.

In section A, shown in the sketch herewith, was formerly a department store and in section B, a hotel.

Later on, as the business of the hotel increased, section A was taken over as part of the hotel building and the division wall between sections A and B opened up and fire doors were placed in the hall on each floor. These fire doors were held open by fusible links.

As in buildings of this type, the furnishings were extremely inflammable, even the stairway being of wooden construction.

The stairways were placed directly behind elevators as shown in the sketch, and both elevator shaft and stairwell were open the whole way up, the elevator shaft being enclosed only by open grill work.

The sketch shows the floor plan of the second floor and the floors above. On the ground floor in section A were a restaurant, kitchen and lounge room. The kitchen was located directly behind the stairwell and elevator shaft.

On the ground floor of section B were the lobby of the hotel and stores facing on Wells Avenue and Smith Street.

The combined building was 80 feet deep and 150 feet long, as shown by the figures in the sketch. The locations of fire hydrants are indicated in the diagram by the usual symbol.

The Fire

The fire started around 5 a. m. in the kitchen, through a cauldron of fat overflowing and taking fire.

At the time this accident occurred there were a great number of grocery boxes, some filled and some partly filled, in the kitchen. Upon the grease taking fire, fire spread to the metal canopy over the range and the employees became panic stricken and rushed out leaving the door leading to the dining room and stair hallway open.

The employees of the kitchen (two in number at this time) hurried to the office and notified the night clerk of the fire. The night clerk made an investigation and discovered that flames were sweeping out into the stair hallway and also into the dining room.

The night clerk aided by porters and the kitchen employees attempted to put the fire out with the hand extinguishers which were available. No progress was made, but on the contrary the fire gained greater proportions in the kitchen and it was eventually decided to call the fire department.

While the hotel employees were trying to extinguish the fire, it had apparently gone up the stairwell, igniting the carpets and woodwork around the stairs. When this was discovered, the night clerk sounded the hotel fire alarm.

The porters had foresight enough to get the occupants of section A into B and close the fire doors after them. This probably did more than anything else to check the fire until the department arrived.

When the apparatus on the first alarm arrived (first response being sent in answer to the telephone call) the occupants of the hotel were streaming to the street by way of stairway in building B.

The porters had done good work in getting the people out of A so that subsequent investigation by members of the truck company revealed no one missing.

How the Fire Was Fought

Engine Cos. Nos. 1, 2 and 3 and Ladder Co. No. 1 responded on the first alarm.

Engine Co. No. 1 was placed at hydrant No. 1 and a single line stretched through the ground floor to the kitchen. This line operated on the fire in the kitchen where it was coming into the stair hallway and dining room.

Engine Co. No. 2 was placed at hydrant No. 6 and a single line stretched to the stairway to assist the line already in operation at that point.

Engine Co. No. 3 was placed at hydrant No. 4 and a single line stretched in and up stairway while the line from Engine No. 2 covered this latter line.

Then a second line was stretched from Engine Co. No. 1 up ladder to second floor.

Engine Co. No. 2 also stretched in a second line to the second floor. Both of these lines met with considerable difficulty in getting to the fire for the rooms between the hall on the second floor and the street front of the building were charged with smoke and heat.

The lines had to pass through this before they could get to a point where they could direct the streams on the fire.

These lines apparently were able to get the fire pretty well in hand on the second floor, but in the meantime the fire had gone to the upper floors and was making fast work in spreading throughout the second floor of section A.

Members of the truck company were sent up to the various floors of section B to make sure that the fire doors were closed and also to see that fire was not spreading through these different floors.

Materials in contact with the division wall were moved back on each floor so that it was felt that there would be little liklihood of fire passing the wall.

(*Continued on page* 188)

PITTSBURGH APPARATUS CRASH RESULTS IN 2 DEAD; 4 INJURED

Pumper Crashes Into Frozen Dirt Pile from Which the Red Lantern Was Removed—Speeding Auto Blamed for Accident

TWO firemen were killed and four others injured, when Engine Company No. 42, Pittsburgh, Pa., struck a pile of hard frozen dirt on East Street near Royal Street with terrific force recently, and hurled the entire crew of firemen into the street.

The direct cause of the fatal crash is said to have been a speeding motor car, which had preceded the fire apparatus sometime before, and knocked over the red danger light which had been placed on the dirt pile. This light was later found in the excavation made for repairing a street sewer.

The two firemen killed were Hoseman Joseph H. Joos and George Dollhopf and the injured were John E. Gillespie, driver of the pumper and also acting Captain of the Company; Hosemen, J. R. Ravenstahl, Joseph E. Crummie and substitute hoseman, Raymond Mather.

The firemen were all picked up from the street and rushed to the Presbyterian and Alleghany General Hospitals. Driver John E. Gillespie, hosemen George Dollhopf, J. R. Ravenstahl, Joseph E. Crummie and substitute hoseman Raymon Maiher were taken to the Allegheny General Hospital, where hoseman Dollhopf died from his injuries a short time after his arrival.

As the apparatus passed Royal Street, the driver according to the firemen riding on the apparatus, noticed the dirt pile directly in the path of the speeding apparatus. Unable to either stop or swing the heavy pumper to the side, the machine struck the dirt pile with terrific force.

The apparatus after running over the dirt pile, skidded and turned completely around in the street, being headed directly in the opposite direction from which it was traveling when it came to a stop after the crash.

A detail of over one hundred uniformed firemen acted as an escort with six uniformed firemen as pallbearers at each of the funerals of the firemen killed in this accident.

W. E. PATTERSON.

Wooden Shingles Banned in New York City

The wooden shingle—the bane of the life of every fireman—has at last been banned by the city of New York, after a bitter and strenuous fight in the Board of Aldermen which adopted the change in the Building Code by a vote of 52 to 9, the negatives being cast principally by aldermen representing districts in which their constituencies were principally the small home owners residing in frame dwellings.

Fire Commissioner John J. Dorman personally appeared before the Aldermanic Board and favored the passage of the measure which spells the end of the wooden shingled roof throughout the entire city of New York by the year 1942, in the following steps or installments:

1. Any roofing hereafter placed on any building within the City of New York shall be approved fire-retarding or incombustible material.
2. Any wooden shingle roof of a building now existing, may be repaired at any time to an extent of not more than 25 per cent of its surface in any one year.
3. Any roofing of a building now existing shall on or before the first of January, 1942, be replaced with roofing of approved fire retarding or incombustible material.

Mayor James Walker signed the ordinance soon after its enactment by the Board of Aldermen. The measure had the support of the Board of Fire Underwriters.

W. J. DALY.

City Not Liable for Damage by Apparatus

In a case recently decided by the supreme court of Wyoming, it was declared that the municipality could not be held responsible for the acts of its fire department, unless so specified in its statutes. The plaintiff was driving his automobile along the streets of Casper, Wyo., when fire alarm was sounded. He attempted to draw up to curb as city ordinance required. But since no parking space along curb was available, he parked his car parallel with the curb and as close to other cars there parked as possible. Shortly thereafter fire truck struck plaintiff's car. The plaintiff filed claim for damage to car and personal injuries, and brought suit when claim was rejected.

The plaintiff pleaded several additional facts, as a basis for holding city liable. (1) The fire truck was operated by city employees at a high and dangerous speed at time of collision. (2) The fire was not in congested district, and the fire hazard did not justify speed. (3) The truck was driven through congested street, though the distance to fire was greater by this street. (4) The street had been recently sprinkled, and the driver of truck had sufficient time to avoid it. (5) The driver of truck had defective eyes, as was known to city. (6) The city had failed to enforce "30-minute" parking ordinance whereby plaintiff was deprived of parking space. (7) The driver had lost control of truck and did not slacken speed to regain control as he could have done (8) The fire alarm was so defective that it could not be heard in congested portion of city. The trial court entered judgment for the defendant city upon demurrer to the complaint which set out the above statements, thus holding that assuming all the statements could be proved, the plaintiff was not entitled to recover. The Supreme Court of Wyoming affirmed this judgment.

The Court said: "And the decisions are nearly unanimous to the effect that, in absence of statutory provisions to the contrary, a municipality is exempt for injuries to persons or property resulting from malfeasance or non-feasance in the maintenance and operation of a fire department by such municipality. White v. City of Casper, 249 Pac. 562 (Wyo. 1926).

Praises Firemen for Work at Governors' Island

Fire Commissioner John J. Dorman of New York has made public, letters of commendation by Brigadier General H. A. Drum, Commander of the Second Corps Area, and Col. Edward Croft, commanding the 16th Infantry, both stationed at Governors' Island, in which they express their appreciation of the services rendered by the New York Fire Department in extinguishing a fire in four of thirty barracks on the Island on the evening of January 5th last.

General Drum's letter was written to Mayor James J. Walker and Col. Croft's letter was sent to Commissioner Dorman. Gen. Drum in expressing his thanks, said in part—"The excellent spirit of cooperation manifested on this occasion and the highly efficient services rendered by the fire department are commendable. The attainment of such excellent state of efficiency could only result from continued effort and constant supervision."

Col. Croft wrote: "I desire to express my appreciation of the splendid personal services and cooperation rendered to us on this occasion by Fire Chief John Kenlon, Deputy Chief John J. McElligott, Honorary Deputy Chief Robert H. Mainzer, Lieut. Edward Fox, Lieut. W. A. Frazer, Capt. Walter Clark, Capt. J. J. Monaghan, Lieut. W. H. Breen, Capt. Wm. T. Beck and Lieut. Lewis E. Parsons of Fire Patrol No. 1."

The fire did $250,000 damage and for a time it threatened every building on the military reservation. It required the combined efforts of two fireboats, four engine companies, one truck company and the fire patrol to subdue the flames. The fire was actually fought under the personal direction of Deputy Chief McElligott of the Marine Division, stationed at the Battery.

CORRESPONDENCE

Calling Firemen by Telephone

To the Editor:

As this is a volunteer fire department and the city has no fire alarm system other than an electric siren, we must rely upon the telephone for location of fires.

On night alarms men residing too far from station to catch trucks secure location of fire from the telephone central and report at the fire in their own automobiles. In spite of repeated requests for the public to wait, they insist on calling central and asking, "Where is the fire–" This naturally hampers the department and in order to overcome this condition I have suggested to the telephone company that green lights be installed on their switch board covering lines on which firemen have telephones. This is about fourteen lights in all, and if installed, would enable the operators to speed up the calls. The company objects, giving for their reason that it is impracticable and that it is not being done.

Can you advise whether or not this system is being used by any cities having volunteer departments– If so, you may have a suggestion or two that would be appreciated.

Very truly yours,
EDWARD HINKLEY,
Chief of Fire Department,
Snohomish, Wash.

(NOTE—Any chiefs of volunteer fire departments who have met a similar problem to that described are invited to send to FIRE ENGINEERING a description of how they have overcome it, so that their experience may be passed on to others in the field.—EDITOR.)

Modern Fire Alarm Signalling

Description of Manually Operated Office Installed at Pittsburgh, Pa.

By E. W. KEIRSTEAD, E. E.

THIS is the twentieth of a series of articles on the care, installation and repair of various phases of fire alarm work. The author has had practical experience in this field, and he will answer questions on this subject that are submitted to him by the readers, free of charge. The only condition is that a stamped envelope must be enclosed for reply.

Description

In the previous article, there was a description of a automatically operated fire alarm office. The fire alarm office described in this issue is many times larger than the Lakewood, Ohio, office, and while the Ohio office served as a model for an automatically operated station, the one at Pittsburgh, Pa., will be used to give an idea of a manually operated station.

This office while not as new or large as some of the offices

Fig. 55. Storage Battery Charging Switchboard.

installed in the past two years has proven of superior design by giving over two years of excellent service. Do not misconstrue my statement to mean that the fire alarm system has never given any trouble; to make such a statement would be foolish, especially to men who are engaged in fire alarm work. The office has however performed its operation every time an alarm has been received and all the apparatus has stood the test and has come through perfect.

The office is housed on the ninth floor of the City County building, the switchboards and operating pedestals are all in the same room; the battery and terminal room being the only two that are isolated from the operating end of the office.

The operating section of the office is composed of all the necessary switchboards and pedestals, as well as the telephone equipment. The room selected for the switchboards and pedestals was constructed for that purpose when the building was built several years ago, and it was decided at that time to house the new central office there.

In the operating room on the right hand side, when entering from the corridor, the storage battery charging switchboards are placed. There are nine ten-circuit boards all set in art metal cabinets with marble trim and shelves running the whole length of the boards. In the rear section of the switchboards, glass panels and doors protect the delicate apparatus from dirt and dust, and each section is lighted by electric lights placed in every section. These boards are used for controlling the charging of the alarm box circuit batteries as well as the fast and slow time engine house circuits and local office circuits.

The current used for charging the batteries and used to feed the charging boards is made in the building and a controlling panel is supplied being located in the battery room. This makes it unnecessary to have the usual motor generator equipment and does away with all noise and humming that would be associated with a generator. There are three different lines supplied to the control panel and if one is out of commission another can be switched over to keep the charging continuous and steady. The control board also controls all the light circuits used in the central office and eliminates the numerous cabinets used in other offices. All the power and light current used here is under the direct supervision of the Supt. of Electricity.

The protector boards are at the head of the room and they are made up of panels the whole of which makes a 152-circuit switchboard. The center panel is used for the ground testing switches and the individual cut out switches and trouble bells. On either side of the test panel the plush protectors and lighting coils are mounted as well as the combination plug cut out switches. These are connected to the alarm, engine house, police and special circuits. Something exists in this office that perhaps is not used in other large offices. The central fire alarm office supplys the current that is necessary to operate the police telegraph system and there are two ten-circuit charging boards with several protector circuits given over to their use. The pawnshop calling circuits are also supplied with battery at this point and given the necessary protection as well.

Directly opposite from the charging boards are two police charging boards in all respects the same as the ones on the opposite side of the room. Running in a line with these two boards are six ten-circuit main line relay boards with the necessary apparatus mounted on them and housed the same as the storage battery switchboards. They are equipped with continuity test jacks and the test set can be plugged in at this point and the condition of the line made known.

At the foot of the room are two fast time or joker switchboards of ten circuits each and two slow time or gong boards with the necessary equipment mounted on them. The fast time circuits are of closed circuit construction and used in connection with the joker or fast time calling bells and registers in the various engine houses. The gong circuits are open circuits and comprise the only open circuits in the Pittsburgh office. They are used to operate the large gongs and indicators in the different engine houses and police departments and newspaper offices. They are equipped with registers and all necessary lamps and sounding devices.

From the above description you will note that the switchboards entirely encircle the room and that it is possible to see any of

Fig. 56. Storage Battery Room.

the apparatus at a glance. Any part of the equipment is within easy reach of the operators.

The pedestals and operating desks are all placed in order to make it easy for the operators to have an unobstructed view of the entire office at all times. As most of the signalling equipment was installed at the low-end of the office, the pedestals and desks were installed at this point. Each one of the pedestals were set up in place with the idea in mind to keep them close enough together to allow for speed in operating and at the same time to allow as much space between the apparatus as possible.

The P. B. X. telephone switchboard is located in the center of the pedestal space; this board is arranged with all the necessary engine house exchange lines. There are also the necessary number of trunk lines, signal lamps and receiving equipment. There is usually one operator who is detailed to stand a continuous watch at this desk and all traffic is handled by this man during his watch period. They have a system in Pittsburgh that perhaps other cities do not make use of. Every hour after nine p. m. the telephone operator will call all the engine house watchmen and take their reports. This is continued until morn-

ing, a call being sent through every hour, giving the operator a check up on all the watch men in the different engine houses.

The registers and time stamps are located to the right and left of the telephone desk. There are six punching registers of five circuits each, mounted on each pedestal giving in all sixty main line register circuits. A take up reel is used for each register and it winds the tape up as it is released by the registers. The idea of placing the registers in this location was to enable the operators to have access and a clear vision of the relay boards and at the same time to allow the telephone operator to verify the alarm and still at the same time not take him too far away from his desk.

Ahead of these two pedestals on the right and left sides of the room respectively are located the gong and joker repeaters. The gong repeater is of twenty circuits capacity and is of the open circuit type, closing the slow time alarm circuit every time it is operated and sending the signal over the gong lines to the various engine houses. The joker repeater is of the same capacity and is of the closed circuit type; it is operated by a master relay opening and closing the individual circuit relays. One half second time is used on the fast time circuits and three rounds is sent to every engine house. The joker repeater is operated by either manual transmitter, the manual multiple keys or semi-automatically by the street box when set properly for the above. Both of these instruments are protected by an air tight glass cover which excludes all dirt and dust.

The semi-automatic operator's pedestal is located to the rear of the room and directly in front of the fast and slow time boards. This pedestal is of the turret type and is built somewhat as a desk. It contains a battery of circuit signal lamps as well as the controlling switches for the same. These are placed in the center of the pedestal and are used for sending the fast time alarm thru to the various engine houses from the street alarm boxes. One round is allowed to come into the office and is counted and the proper switch is thrown and the alarm is retransmitted automatically.

On either side of the turret are located the plug cut out switches allowing the different circuits to be cut out of the pedestal. On the left hand side the fast time multiple key is placed by means of this key. Alarms can be manually sent out over the joker circuits—a fast time recording register and time stamp is also used to record all fast time signals sent out from the office. On the right hand side the gong multiple key is located and it is of the open circuit type used to send out manual slow time signals and for any special work that may be required. The slow time signals are also recorded by a register and time stamp on the pedestal. The pedestal is made up of art metal steel, and all finish and trim is of white marble. There is a terminal board located in the base of the pedestal and all wiring to the apparatus is first brought to this point. This makes it very easy to make test or to cut out or open any individual circuit that may be desired.

On the left hand side of the pedestal is the manual transmitter with all its equipment. There are two transmitters on the pedestal, one for fast time and one for slow time transmission. The master relays and keys for manually operating the alarm circuits and the cut out switches are also mounted on the pedestal. It is a very easy matter to see any one of the boards as well as all the other apparatus from this point, and it is also close to all the operating parts in the office. The transmitters are of the spring wind type and are wound up when pulled.

Another transmitter is placed directly opposite the one above described and is used for an emergency. They are both mounted on art metal cabinets and finished with marble shelves and kick plates.

In previous issues some of the pictures of this office were used to describe different types of apparatus and in addition two of the pictures of this office are shown in this issue. Figure No. 55 shows the storage battery charging switchboards and it will give one an idea of the arrangement. In Figure No. 56 is shown the storage battery room. The operating room is very well lighted and there is plenty of space around all of the different boards. The ceiling of the room is very high and a layer of acoustic cloth is laid over the ceiling finish to make the room as sound proof as possible. The windows are placed very high to cast the light down into the center of the room. It also protects the front surface of the switchboards from damage by the direct rays of the sun.

Battery Room

The racks are all set up on troughs of steel which run lengthwise in the room. These troughs also carry all the wiring going to the batteries. The entire battery rack was painted with several coats of a special acid proof white paint and a coat of white enamel applied to the finished surface. This tends to make the room lighter than a room with the customary black racks and also presents a more pleasing appearance. There are about 2000 cells of F. I. P. battery used to supply the different circuits and they are all mounted in duplicate sets and supported with porcelain insulators and glass strips. The room is also equipped with a large sink in which the batteries are made up and the old jars are washed and cleaned up. The control panel is also in this room and it is from this room that all the power and lighting for the entire fire alarm office is supplied. The panel is made up of marble and consists of the necessary cut over switches and individual circuit switches. The room is about 30 feet long by 18 feet wide and it is large enough to hold the equipment without crowding.

The terminal room is located next to the battery room and in this room all the underground cables enter and are terminated. Here they are cross connected to the various circuits.

The rack is made to properly care for 450 circuits with an entrance or underground side, and an office side. It is built out of angle iron framework and slate blocks on which the terminal studs are mounted. There are 15 slate strips for the underground circuits, each strip being able to take care of 30 circuits, and the same allowed for the office side.

The lead cables are brought up the nine flights in a cable way built in the building especially for that purpose. They are anchored at each floor and are held at the top floor by stranded cables arranged with turnbuckles by means of which they can be tightened at any time.

Where the cables come over to the racks they are formed up into loops or goose necks and are attached to angle guide brackets. They are all laced with a heavy waxed twine and are securely attached to the rack.

There is a telephone set in the room and portable leads supplied with it, by means of which any circuit may be tested at this point. The terminal room is arranged in keeping with the design of the rest of the office and while it is not possible to make a pretty terminal installation it is never the less one of the best in the country.

This office was constructed completely and tested out before being cut over. The old office at the time of the cut over was located in the Public Service building located on Sixth street some distance away and all connections to the new office had to be made by means of half taps on the cables at different parts of the city. These cables were all half tapped and held in readiness for the cut over.

To demonstrate the ease and rapidity with which the office was cut over, the total time consumed in the change over was just two hours and twenty minutes, and in addition the cut over was made at a time when alarms were being handled in the office. On one of the alarms that were sounded, the alarm was sent out from the old office and the all out or dismissal signal was given out from the new office.

Telephone communication was established with the new and old offices by means of a portable telephone set. One man was detailed to the telephone at each end of the line. Circuit No. 1 was taken first and the operator at the old office was at the storage battery board waiting to pull the fuses at the signal; at the new office the fuses were placed in the protector boards and the signal given over the telephone to the operator to pull No. 1 circuit fuses. After this was done the circuit was working through the new office and no stray blows were sounded. The entire system was cut over in this manner and not one single blow was sounded during the entire operation, except for actual alarms. It can be seen that the half taps on the cables were to permit the cable to receive battery from both offices for a fraction of a second and these taps had to be made permanent afterward.

There are two operators for every shift and the day shift has in addition a chief operator. The shifts take different watches each week and in that manner they are relieved of regular night duty.

The office at the time of its construction was said to be the largest in the country, and was only eclipsed by the new Boston office which went into commission lately.

The next article will deal with whistle blowing machines and bell strikers, and will take up its description and operation in service.

Date Set for Dominion Convention

The Dominion Association of Fire Chiefs will hold their annual convention at Hull, Quebec, on July 25-28 inclusive. The date has been advanced sufficiently far ahead to permit the chiefs to attend both their own meeting and the convention of the International Association of Fire Chiefs.

At the meeting of the directors of the Dominion Association on January 22, the date was tentatively set as August 16-18, but when it was announced that the I. A. F. C. would meet on August 9-12, the Canadian convention was moved ahead.

Three Dead in Quantico Barracks Fire—An army lieutenant, his four-year old daughter and a house guest were burned in a fire that destroyed part of the marine barracks at Quantico, Va.

Fire Alarm Building Has Unique Features

Description of System—Building Adjourns That of the Fire Department Headquarters—System Has Ten Circuits

By HARRY BELKNAP

WITH the sounding of the test call at 10 a. m. on January 13, the new fire alarm central office of Brookline, Mass., was officially placed in service; another part of the ceremony was the unveiling of a tablet. The system is housed in a one story brick building adjoining the headquarters of the fire department on Washington street, a short distance from the section of the town known as "Brookline Village." The new improvements culminate the efforts of Chief Selden R. Allen and Fire Commissioner Willard W. Estabrook to give the city the best in fire protection.

There are three unusual features in connection with the new building. First, the offices of the fire commissioner, secretary,

New Central Fire Alarm Headquarters of Brookline, Mass., Adjoining the Fire Department Headquarters.

and chief of department are situated in the front portion; second, there is provision for operation of the alarm system either as a manual or an automatic system; third, an arrangement has been devised for the control from headquarters of a system of traffic warning signal lights and sirens.

The new system consists of ten box circuits over which alarms will be received at the central station from the street boxes; four engine house fast-time circuits and four slow-time circuits also connect with the engine houses and the outside tower bells. These tower bells will only be used on second or third alarms, to recall the off platoon, and for time signals, mililization of police force, militia call, etc.

The ten box circuits will provide for 250 street boxes and it is expected that the system will prove ample to care for the needs of the town for fifty years at least. For the present there will be 105 alarm boxes of the latest Gamewell, successive, non-interfering type connected with the new headquarters. Over 50,000 feet of cables have been laid to connect the boxes with the operating room in the new building and underground lead covered cables have been extended to the town boundaries. Each fire alarm box is equipped with a Morse telegraph key and a plug connection for a portable telephone. There are seven fire zones.

Fire Zones and Traffic Signals

The new box numbers are so arranged that the first digit represents the section or zone and the other numerals indicate the portion of the zone where the box is situated. Hence an alarm that commences with the numeral one will indicate that the fire is in Zone 1. The lower numbers are those of the congested portions of the town. A new running card has been made up covering the response of the engine and hook and ladder companies to the various boxes.

Traffice alarm signals consisting of warning gongs and flashing red lights have been installed close to all fire stations and will be operated to indicate that the apparatus is about to leave the house. These will be worked by means of a push button at the patrol desks of the various stations.

In addition there have been installed on fire alarm box posts at points in the congested district a series of three lights. The center one is a fixed red and denotes an alarm box, the one at the right hand arm is a flashing red to indicate the approach of apparatus, and the one at the left hand arm of the pole is flashing blue for use as a signal for policemen to report or communicate with the station house. A siren is also attached to the pole. The fire signals are operated from the fire alarm office and the police light from headquarters of the police department.

Description of Building

The fire alarm building is constructed of red brick with limestone trimmings. The brick is of the kind known as antique water struck brick. The roof is surmounted by a stone railing. The building is one story high with a basement for workshop and battery room. The dimensions are 77 feet on Thayer Street and 28 feet on Washington Street. The lot is surrounded by an ornamental wrought iron fence.

In the front of the building to the left of the hallway are placed the offices of Fire Commissioner Estabrook, Secretary Joseph H. Kelliher, and Chief Selden R. Allen. The office of the secretary is between the offices of the commissioner and the chief and it is fitted with an ingenious device consisting of a combined railing, desk, and filing cabinet so that records may be kept available for reading reference in making out permits or inspection blanks. At the right of the hallway is the patrol desk, gongs, and registers, a nearby door connecting with the apparatus floor of the department fire headquarters building.

In the rear is the large and well lighted operating room fitted with the most modern type of Gamewell fire alarm telegraph equipment. The layout includes a 20-circuit protector board, two 10-circuit charging boards, one 10-circuit alarm board, one 8-circuit board, fast and slow-time apparatus for sending alarms to fire houses, one automatic 10-circuit repeater, one fast and slow-time transformer, one 10-circuit recording pedestal for incoming alarms, and one 8-circuit recording pedestal with time stamp for recording fast and slow-time signals.

There is a PBX telephone switchboard with four trunk lines and connections by telephone with all fire stations in the town. A large clock is synchronized by Western Union time service and controls all time stamps. Fire alarm tappers of the Boston and Newton departments are installed, so that all alarms in these adjacent municipalities will be received and recorded. On certain boxes near the boundary lines Newton apparatus is assigned to respond. Each of the seven fire stations in Brookline is equipped with fast time tappers, punch register for permanently recording signals, and take-up reel, all mounted above the patrol desk.

A. D. Wheeler, New England District Sales Manager of the Gamewell Company, had charge of the installation; E. N. Davis,

Chief Operator J. H. Daly at His Desk in the Operating Room

superintendent of lights and wires for the town of Brookline; Deputy Chief J. B. McDonald, of the Brookline Fire Department; and J. H. Daley, chief operator, also assisted.

Power for the alarm circuits and batteries is obtained from the Edison Electric Illuminating Company and there is also an arrangement for use of power from the Boston Elevated Rail-

way System in the event of an emergency which might cause suspension of the Edison service.

The following is the manner in which fire alarms and special signals will be sounded on the new system:

Fire Alarms

First Alarm—Three rounds of box number on fast time tappers, followed by two rounds on slow time gongs.

Second Alarm—Two blows and one round of box number on fast time tappers, followed by two blows, one round of box number on slow time gongs and tower bells.

Third Alarm—Three blows and one round of box number on fast time tappers, followed by three blows and one round of box number on slow time gongs and tower bells.

All Out Signal—2—2; 2—2, followed by one round of box number on fast time tappers.

If, before the recall is sounded for a first alarm from a given box an alarm is sounded from another box ordinarily answered by two or more of the companies responding to the alarm from the first box, all companies that would respond to a second alarm from the first box will answer the alarm from the second box, also the remaining ladder company will also respond.

In case an alarm has been received from a third box and before the recall has been sounded from the previous boxes, all unemployed companies will respond, also the engine company from Boston that would respond in case a call for assistance had been rung from that box.

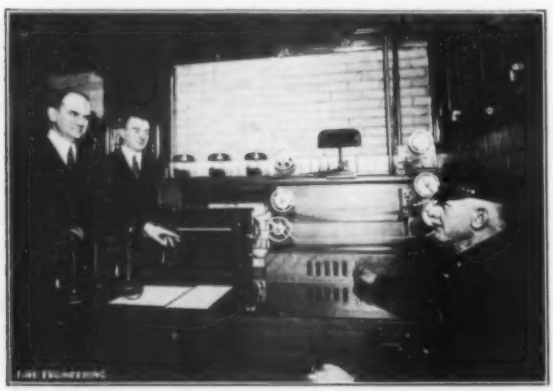
Three of the Brookline fire stations are directly connected with the Boston fire alarm headquarters in the Fenway and the house in the Chestnut Hill district of Brookline will be connected with the Newton system from the reason of response of the company on Newton alarms adjacent to the town line.

The cost of the new Brookline fire alarm building and equipment was $137,500. It is planned to use the roof for setting up exercises of the members of the fire companies in the adjoining station during the summer months. In the winter the men drill on the apparatus floor. There are toilets and showers in the rear end of the new building for use of the fire alarm force of three operators.

Dedication Exercises

The bronze tablet in the hallway carries the following inscription: "This Central Fire Alarm Headquarters is erected for the purpose of protecting the lives and property of the citizens of Brookline. Selectmen of the Town of Brookline, Charles F. Rowley chairman; Walter J. Cusick, G. Loring Briggs, Daniel A. Rollins, Theodore C. Bremer; Fire Commissioner Willard Estabrook, Chief of the Fire Department Selden R. Allen, Inspector of Wires Eugene N. Davis, 1926."

Six year old Charles F. Rowley, Jr., son of the chairman of the Board of Selectmen, pulled the string that unveiled the tablet and Mrs. Rowley sent out the first test signal over the new alarm system at the dedication ceremonies on January 13. About fifty invited guests were present, including George L. Fickett, Superintendent of Fire Alarms in Boston; George F. Cobb, traffic manager of the New England Fire Chiefs' Association; and Bartlett Tyler, vice-president of the Box 52 Association.



Part of the Mutual Aid System in Chelsea, Mass.

Chief David M. Hudson of Chelsea, Mass., inspected part of the additional equipment made necessary through the institution of the mutual aid system. According to this system, the municipalities of Chelsea, Revere and Everett promise to aid each other in fire fighting. At the extreme right is Mayor Lawrence F. Quigley who pulled the first official alarm of the system, and besides the mayor is Edward J. Mahoney, city electrician, who planned the system and directed the technical work.

Fire Loss of Detroit a Half Million Less

Notwithstanding an increase of 819 fires and an increase of millions of dollars in property values contained in 34 miles of territorial annexations to the corporate limits of the city during the year 1926, the city of Detroit, Mich., as revealed by the annual report of Fire Marshal G. S. Goldwater of the Fire Prevention Bureau to the Board of Fire Commissioners, had a decrease of $460,000 in the fire losses.

Fire Marshal G. S Goldwater, Detroit Fire Dept.

Detroit—the mecca of the automobile industry in America, had 1,314 fires in automobiles, which was 11.5 per cent of the classified fires. In his report, Fire Marshal Goldwater points out to the Fire Commissioners that wood shingle roofs are a growing hazard with each year of their existence, and he strongly advocates the termination of that and other forms of combustible construction. He declares that there is no longer any justification for wood shingle roofs, and that whatever justification there may have been in years gone by for the construction of houses with wood shingle roofs, there is no excuse of that type of construction today.

Devoting much space in his report to the subject of construction, Chief Goldwater makes a distinction between the fire prevention responsibilities of a builder and an occupant, and he adds—"it would be much better if we spoke of buildings as 'fire resisting' instead of 'fireproof,' for as a matter of fact nothing is entirely proof against a severe fire. It is the duty of every person building a structure of any kind to make it as fire resistive as possible."

Detroit had thirteen fires of more than $30,000 loss during the year 1926. The largest fire from the loss standpoint was the F. M. Sibley Lumber Company on July 4th, the loss amounting to $200,984. The next in size of loss was the Fisher Wall Paper fire on Randolph street in the month of May, reaching $102,999.

The total losses for the year amounted to $3,519,549 on an assessed valuation of $170,791,524, carrying insurance of $151,218,327. These figures are computed on the record of 11,329 alarms, of which 1,043 were false; 54 per cent, or 6,102, show no recorded loss.

A summary of the losses follows:—

No record of loss	6,102
Less than $100	969
$100 to $1,000	1,031
$1,000 to $10,000	513
$10,000 to $20,000	23
$20,000 to $30,000	4
Over $30,000	13
Not settled Dec. 31st	345
Unnecessary alarms	898
Malicious false alarms	1,043
Outside the city	26
Special calls—first aid	362
Total	11,329

Of the 9,000 actual fires during the year, July leads the list with 1,116 and September was the lightest with 447 fires. October, November and December were the heaviest in false alarms, averaging 125 per month.

The principal classified causes among the 45 known causes of fires were as follows: Automobiles in garages or on highways 1,314, bonfires, grass and rubbish fires 1,091, careless smokers 920, carelessness with matches 267, chimneys 445, children and matches 459, ovens, boilers, furnaces and stoves near woodwork 315, smoke, furnace and steam pipes near woodwork 195, sparks from chimneys, stacks, etc. 1,208, from stoves, furnaces, forges

(*Continued on page* 191)

New Rules of the New York Fire Department

This Eighth Installment Covers Regulations for Funerals, Including Formation of Escort; Hose and Nozzles and House Watch Duty

FOLLOWING is the eighth installment of the "Rules and Regulations of the Uniformed Force of the Fire Department of the City of New York," just issued by that department, and which are to be published serially in their entirety in FIRE ENGINEERING. *This book has been compiled and edited by Captain John J. McCarthy, of H. & L. No. 43, detailed in charge of the Division of Public Assembly at Fire Headquarters, who worked under the personal supervision of Chief John Kenlon. This installment includes sections covering Regulations for Funerals, including the Formation of Escort; Hose and Nozzles and House Watch Duty:*

Regulations for Funerals

SEC. 205. In the event of death of a member of the Department, it shall be the duty of his commanding officer to notify the office of the Chief of Department, immediately, and to ascertain whether or not an escort for the funeral is desired by the family of the deceased.

SEC. 206. Escorts shall be assigned as follows:

1. For the Chief of Department: 2 Deputy Chiefs, 3 Chiefs of Battalion, 300 Firemen.
2. For a Deputy Chief of Department: 1 Deputy Chief, 3 Chiefs of Battalion, 200 Firemen.
3. For a Chief of Battalion: 1 Deputy Chief, 2 Chiefs of Battalion, 100 Firemen.
4. For a Captain: 1 Chief of Battalion, 3 Captains, 50 Firemen.
5. For a Lieutenant: 1 Captain, 2 Lieutenants, 25 Firemen.
6. For Engineers of Steamer, Marine Engineers, Pilots, or Firemen: 1 Lieutenant, 12 Firemen, 6 Pallbearers. (From the off platoon of company to which deceased was attached.)

SEC. 207. The escort to be provided for the funeral of a member killed in the discharge of duty, or of one to whom it is desired to show special honors, shall be selected when occasion requires.

SEC. 208. Officers in charge of funeral escorts for deceased members below the rank of lieutenant, shall select six members of the same command and rank as the deceased, to act as pallbearers.

FORMATION OF ESCORT

SEC. 209. The escort will form opposite the residence of the deceased, buglers or band on the flank toward which the procession is to march.

On the appearance of the coffin, the commanding officer commands "Attention! Salute!" When the body has been placed in the hearse he will give the command "Recover!"

The escort may then be formed in column of companies, platoons or squads. If the escort is small it may be formed in a single line. The escort precedes the hearse.

The band, if present, will play solemn music from the time the remains are brought from the house until placed in the hearse, and shall continue playing in slow time until the church is reached.

The procession is formed in the following order: a. Band. b. Escort. c. Clergy. d. Hearse and pallbearers. e. Fire Commissioner and Deputies. f. Mourners g. Officers of the Department in the order of rank. h. Members of the former command of the deceased. i. Members not officially detailed. j. Members of delegations or societies, and civilians.

The procession being formed, the commander of the escort puts it in march. The escort marches slowly. When opposite the church, line is formed facing the church. When the coffin is taken from the hearse, the commanding officer will give the command "Attention! Salute!" When the coffin has been carried into the church, he will follow with the command "Recover!" Appropriate music will be played during the time the body is being taken from the hearse into the church.

If provision is made for the attendance of the escort inside the church, the commanding officer will be sure to get the escort out at the conclusion of ceremonies, and have it in position at the head of the funeral, ready to march.

When the escort arrives at the point it is to leave the deceased, the commanding officer will form line to the right and as the hearse comes within six paces of the left flank of his command he will order "Attention! Salute!" and remain in that position until the hearse and mourners (usually the first three carriages) have passed. The escort may then stand at "Parade Rest" until the remainder of the funeral has passed, or they may be immediately dismissed.

SEC. 210. When coaches are supplied, the pallbearers will accompany the funeral to the cemetery. There they will bear the body from the hearse to the grave. After the body is lowered and when the grave is covered, the bugler (if present) will sound "Taps."

SEC. 211. If an escort is to take part in the ceremonies at the grave, they will form in line on *left* of the grave, facing it, and will stand uncovered while the body is being lowered into the grave. As soon as the body is lowered, the escort will cover and be brought to the position of "Parade Rest," officers and men slightly inclining their heads during services.

SEC. 212. The commander of an escort, previous to the funeral, should confer with the undertaker and clergyman, so that there will be mutual co-operation during the ceremonies.

Hose—Nozzles

SEC. 213. Hose shall be cared for in accordance with the following:

a. On apparatus, it shall always be dry, securely coupled, and orderly in arrangement.
b. Cotton jacketed hose, when wet or damp, shall not be permitted to remain on apparatus longer than is absolutely necessary.
c. Cotton jacketed hose that has not been used at a fire for a period of thirty days shall be connected to a hydrant, flushed with water, and hung to dry.
d. Hose used at a fire shall be cleaned thoroughly before being placed in the hose tower or on hose racks.

SEC. 214. The utmost care shall be given nozzles and pipes, as they are easily rendered useless for the purpose intended when handled roughly or carelessly.

Shut-off nozzles shall not be clamped on nozzle holders on apparatus.

Nozzles and pipes shall, at all times, be fitted with proper washers.

SEC. 215. When replenishing the hose supply on apparatus, couplings shall be examined, fitted with proper washers, and oiled lightly. Care shall be taken to see that oil does not make contact with rubber or fabric. Couplings shall be sufficiently tight to prevent leakage.

SEC. 216. Hose on apparatus that has not been used within a month shall be removed and realigned so as to form new bends.

SEC. 217. Hose lines, at fires, shall be run in as near to the curb as possible, on the same side of a thoroughfare as the hydrant or pumping engine.

Officers must use sound judgment in directing the laying of hose lines, in order to avoid the use of surplus hose.

They shall see that apparatus used for laying hose is removed promptly from the immediate vicinity of a fire unless otherwise guided or directed.

SEC. 218. When hose lines are laid across railroad tracks, the usual danger signals shall be posted immediately.

SEC. 219. When hose is laid across the sidewalk in front of company quarters, the house-watchman shall warn pedestrians against tripping.

SEC. 220. When washing down the walls of company quarters, care shall be used to avoid spraying at or near electrical switchboards.

SEC. 221. Bursted hose shall be made the subject of an entry on the fire report and in the Company Journal, giving the kind, size, name of manufacturer, year, registered number, and pressure at which it burst.

Bursted lengths when dry shall be rolled for delivery to the repair shop; a report embodying the data named above shall then be forwarded to the officer in charge of the Division of Apparatus, together with a requisition for repairs.

SEC. 222. Upon return to quarters all wet or damp hose shall be removed from apparatus, thoroughly scrubbed, flushed with fresh water if salt water had been used, and then suspended by the male coupling in the hose tower.

SEC. 223. When taking up at a fire, hose lines shall be drained outside the building. When removed to the street, lines shall be uncoupled at every second length, then recoupled, and placed upon apparatus.

House Watch Duty

SEC. 224. House watch duty shall be performed, in land companies, by all members below the rank of Lieutenant, with the exception of ununiformed firemen and members performing building inspection duty. These may be assigned as assistant house watchmen only.

On fireboats, the pilots and engineers shall also be exempt from house watch duty.

(*Continued on page* 195)

N. Y. F. D. ANNUAL REPORT SHOWS MUCH ACCOMPLISHED DURING YEAR

Fire Commissioner Dorman's Report Tells of Many Achievements—New Book of Rules—Modern Uniforms Adopted—Fire Alarm Extended

By WM. JEROME DALY

AN increase of 14 per cent in fire losses in New York City last year, is disclosed by the annual report of Fire Commissioner John J. Dorman, which he has just completed for transmittal to Mayor Walker.

Commissiner Dorman attributes much of the increased losses to corresponding increases last year of 16 per cent in the assessed valuation of property; 10 per cent in the number of fires, 6 per cent in the number of buildings, and 0.84 per cent in population.

Fire Commissioner John J. Dorman

The report reviews the stewardship of Commissioner Dorman since his appointment last May as fire commissioner and the activities of the department for the twelve months period. It recites among other achievements during the year, the promulgation for the first time in 14 years of a new book of rules and regulations; the adoption of modern style uniforms to replace the Civil War mode which firemen in New York have been wearing since 1865; the granting of additional vacation time to all ranks and grades in the uniformed force; the extension of the fire alarm telegraph system; the organization of four new fire companies—two in the Throggs Neck section of the Bronx and two in Richmond Hill section of Queens; the conversion of two fireboats from coal to oil fuel burners; the award of contracts for the construction of three additional firehouses in the Flatlands and Rugby sections of Brooklyn and the Springfield section of Queens; the purchase of 20 additional fire engines and 62 automobiles for chief officers, and a saving of $102,717 in the department budget for the year, or one-half of one per cent less than the budgetary expenditure for the year 1925, which were $19,085,899.71.

Fire Losses for the Year

The fire losses last year in New York City amounted to $21,671,755, an increase of $2,802,670 over the year 1925. Fifty-six per cent of the losses were nominal or less than $10. There were 25,185 fires, an increase of ten per cent over 1925 and 30,610 alarms—an increase of 9 per cent over the previous year. Of the 30,610 alarms, 5,425 were false or unnecessary.

The per capita loss was $3.21, an increase of 45 cents over 1925. The number of fires per thousand of population was 4.25, an increase of .36, and the number of fires per hundred structures was 4.17, an increase of .15. The fire fighting force maintained its previous good record of extinguishment by confining 90 per cent of all fires to the point of origin. The total fresh and salt water used in extinguishment last year was 84,282,942 gallons, or 19,341,056 less than the year 1925. The battalion district in the Brownsville section of Brooklyn had 1,210 fires during the year, or about 100 per month; the second busiest battalion was the 12th on E. 125th St. in Harlem, with 1,086 fires, while the third busiest was the 20th battalion in the Hunts section of the Bronx with 1,025 fires.

Substitute Fuels Contributing Causes of Fire

One of the contributing causes for the increased number of fires, was the use of fuel substitutes during the winter months of 1926, due to the shortage of anthracite coal which necessitated the use of wood, oil and other heating materials, resulting in many additional fires principally in tenements and other dwellings. In that connection, the report states, 16,380 of the 25,185 fires were in buildings, and of this number 10,868 were in tenements or other residences, 2,979 were in factories, lofts or other commercial structures; 11,338 were miscellaneous of which 5,673 were brush, fence or street fires.

Carelessness with matches again leads the list of causes, although there were less persons killed and injured by fire in 1926 than in 1925. Last year 280 persons were injured and 131 were killed, a decrease of 61 in the former and 10 in the latter. The Fire Marshal made 69 arrests for arson, an increase of 27 and obtained 30 convictions, an increase of four. There were 93 incendiary fires, a decrease of 41, and 307 were of suspicious or questionable origin, a decrease of 17. More than a majority

(*Continued on page* 184)

NEW JERSEY CHIEFS TAKE LEAD IN ORGANIZING EASTERN SECTION

At Meeting of Board of Directors on February 17 Plans for New Organization Are Developed—Committee Appointed

ON Thursday evening, February 17th, the Board of Directors of the New Jersey State Fire Chiefs Association met at the Newark Athletic Club to take initial steps toward the formation of the Eastern Fire Chiefs Association, one of the sectional organizations of the International Association of Fire Chiefs.

Chief Charles W. Greenfield, President of the New Jersey Association, presided and plans for developing the Eastern organization were discussed. As a result of the discussion a motion was made and carried to the effect that the New Jersey State Fire Chiefs Association take steps to co-operate in the organization of the Eastern Fire Chiefs Association, which is to be a section of the International.

The motion was carried unanimously.

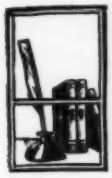
A committee was appointed to arrange for a meeting of delegates from the five states included in the Eastern section and at which meeting definite steps toward the organization will be made. The committee appointed consists of President Charles W. Greenfield of the N. J. Association; I. H. Case, Chairman of Publicity and Membership of the International Association and Honorary Member of the N. J. Association, and Fred Shepherd, Editor of the *International Fire Chief* and Honorary Member of the N. J. Association.

The states to be included in the Eastern organization include Pennsylvania, New Jersey, New York, Delaware and Maryland.

The New Jersey Association, one of the livest state associations in the country, now counts among its members over 650 fire department officials.

Eighty Years Old, Still Active as Chief

Chief George A. Wallace, head of the fire department in Cleveland, Ohio, and eighty years of age, is still active as the department head. When Chief Wallace was a fireman the city had seventy-three firemen, and of all this number he alone survives. He joined the department on June 1, 1869, fifty-eight years ago, and he still has the blanket and the fire helmet that was issued to him when he was a plain fireman.



WITH THE EDITOR

Another Liability Decision

In another decision a municipality is not liable for damage inflicted by a fire truck while answering an alarm of fire.

In this particular case the decision is all the more important, as the appellant alleged negligence of the city in several particulars. Some of these were: high speed of fire apparatus, truck not under control, driver had defective eyes, fire not in high value district, therefore no need for high speed, street slippery from being sprinkled, and truck could have taken another street, etc.

The driver of the damaged car in question, after drawing to one side on hearing an alarm, was struck by a ladder truck, his car demolished and himself injured.

The driver of the damaged car in question, after even assuming that all of the allegations of the appellant could be proved. This was based on several previous decisions in similar cases, which had held that the city could not be held liable for injuries to persons or property resulting from "malfeasance or non-feasance in the maintenance and operation of a fire department by such municipality," except where statutory provisions to the contrary prevail.

This decision is interesting in that it defines very distinctly the fact that the fire department in answering an alarm has the right of way in the streets, and it is the duty of all other vehicles to give the apparatus all the room necessary for their passage. If any civilian vehicles are damaged and their drivers or occupants injured they have no redress. The effect of such decisions should be salutory in influencing civilian drivers to allow the fire department to perform its duty without the wholly unnecessary handicaps which are constantly being thrown in its way by careless or indifferent automobilists. If this result is attained the decision and others like it will have proved a boon to firemen and civilians alike.

Suit May Establish Important Traffic Precedent

A suit now being tried in the New York Courts may establish a precedent of the utmost importance in its relation to the traffic situation. It is being brought by a citizen who claims large damages for the death of two members of his family in a fire which occurred last September in an apartment house on St. Nicholas Avenue, New York City. The defendant in the suit is a contractor of the new subway being constructed on that avenue. The ground for the suit is the claim that the fire apparatus were unable to rescue the inmates or properly fight the fire in the building, owing to the obstructions in the street placed there by the contractor and the blocking of the fire hydrant by the materials used in the construction of the subway.

This suit, should the decision be in favor of the parties bringing it, would have results of incalculable magnitude. It would place the burden of responsibility in the event of a fire getting away from the department upon anyone who in any way obstructed the work of the fire department. It would thus have a direct influence upon the traffic problem.

If the obstruction of the street, causing the blocking of a fire hydrant or the interference with the fire department in its work of rescue or extinguishment, were proved to be actionable, the owners of automobiles parked in front of a hydrant or which in any way interfere with the fire department, could be made to pay the damages resulting from such interference, either in loss of human life or in destruction of property.

The possible result of such a decision upon the parking problem would be far-reaching.

It might provide a remedy for the congested streets in time of fire, and would do away with the interference with the fire department by automobilists who persist in obstructing the street during a blaze, in order to get a good view of the fire.

A few of such suits, successfully prosecuted, would go a long way to remedy this growing evil that is so serious a menace to the fire-fighters.

What a Reward!

The salaries of chief officers of fire departments are often entirely too small, in consideration of the responsibilities they are compelled to assume and the dangers they are called upon to face. The pay of the chief and his principal assistants who, due to absence, are called upon to exercise the authority of the head of the department, are often ridiculously low. The following item of news appeared in a daily newspaper recently:

Assistant Fire Chief Gets $2.50 Increase

Assistant Chief of the Fire Department J. J. V—— Wednesday finished his twentieth consecutive year with the fire department. The City Commission, in accordance with the city ordinance, voted him an increase of $2.50 a month in salary.

One might easily imagine that such a munificent raise in salary after a service by the assistant chief of twenty years, would come from a small town government. As a matter fact, this article was printed in the columns of a daily in a city of no mean size and importance in the South.

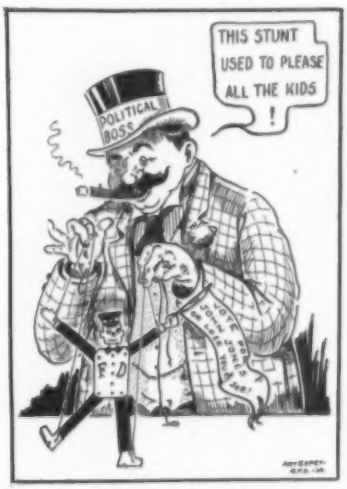
The responsibilities that the chief is called upon to shoulder and the increasing necessity for this officer to be an expert in many directions in order to properly

prosecute the fire protecting and fire fighting work of his department, calls for a salary commensurate with the knowledge and experience which he is compelled to have to properly carry one.

The sooner this fact is recognized by the authorities in municipalities which underpay their fire officers the better it will be for the cities, their people and the fire departments which protect them. Ample pay for the chief predicates an appreciation of his work and shows him that his superiors realize what he is doing to make his community safe. This is a vast encouragement to him to improve himself and his department.

Politics at Its Worst

Politics showed its hand prominently in an eastern city recently when the council refused to re-elect a tried and efficient fire commissioner and chose instead a former lieutenant of the fire department. This case is particularly flagrant, as the city in question had been served in an admirable manner by the deposed commissioner, who had always shown a strong hand in keeping politics out of the fire department.



"That's All Right! But Why Wish It on the Grown-Ups?"

Our artist, "Art" Espey, has well illustrated the relation of Politics to the Fire Department in the above cartoon.

This is one of the cases where the citizens of a city can make themselves heard in defense of the integrity of the fire department. Once let politics get its grip on the department, and efficiency and dependency will be things of the past. Members of the department and all who have its interest at heart must maintain constant vigilance if they would keep the department's slate clean.

Plans Made for New Jersey Convention

Committees have been appointed to plan the celebration of the fiftieth anniversary of the New Jersey State Firemen's Association at the coming convention that will be held in Atlantic City on September 23-24.

The committee plans to stage the largest fire department parade ever held in New Jersey. For the memorial day service, some prominent minister will preside; the outstanding address will probably be made by Governor Moore or United States Senators Edge and Edwards.

The following are the various sub-committees appointed for the observance of the fiftieth anniversary:

Parade Committee—Henry W. Breder, Chairman, Egg Harbor City.
Exhibition of Fire Apparatus and Fire Department Equipment Committee—Chas. W. Greenfield, Chairman, Kearny.
Speakers Committee—Wm. H. Black, Chairman, Highbridge.
Music Committee—Fred. A. Trowbridge, Chairman, Morristown.
Souvenir Book and Programme Committee—Chas. J. Morris, Chairman, North Bergen.
Convention Arrangement Committee—T. Howell Johnson, Chairman, Bloomfield.
Finance Committee—T. Howell Johnson, Chairman, Bloomfield.
Badges Committee—T. Howell Johnson, Chairman, Bloomfield.

Bookings of "The Fire Brigade" Increase

Additional bookings of the "Fire Brigade," the motion picture sponsored by the International Association of Fire Chiefs, are being received daily. The following list contains the additional bookings that have been received since the publication of the lists in the previous issues of FIRE ENGINEERING.

CITY	THEATRE	DATE
Alabama		
Selma	Academy of Music	March 22-23
Tuscaloosa	Bama	April 20-21
Arkansas		
De Witt	New	April 8-9
Dermott	Allied	May 23-24
California		
Antioch	Casino	March 2-3
Fresno	Kinema	March 6-12
Gerber	Gerber	March 18-19
Livingston	Court	May 8-9
Los Angeles	Graumans	Feb. 21
Martinez	California	March 14-16
Oakland	F. & D.	Feb. 26-March 4
Pittsburgh	California	Feb. 24-25
Sacramento	State	Feb. 26-March 4
San Jose	California	March 13-19
Stockton	California	March 8-12
Colorado		
Colorado Springs	Rialto	March 14-19
Cortez	Muse U	July 28-30
Denver	Mystic	May 15-18
Denver	Victory	Feb. 25-March 10
Ft. Lupton	Star	April 24-26
Greeley	Sterling	Feb. 28-March 3
Gunnison	Unique	July 12-14
Littleton	Palm	March 13-15
Pueblo	Colorado	March 8-10
Rico	Rico	Oct. 4-6
Connecticut		
Beacon Falls	Top Notch	April 12
Deep River	Pratts	April 4-6
Hartford	Lyric	Feb. 27-March 1
Hartford	Rialto	March 23-24
New Haven	Dixwell	April 27-28
New Haven	Strand	April 16-17
Oakville	Oakville	March 5
Plainville	Community	May 9-10
Wallingford	Wilkinson	Feb. 23-25
Florida		
Lake Wales	Scenic	March 28
Monticello	Katherine	April 18-20
Waushula	Royal	April 12
Georgia		
Atlanta	Howard	Feb. 21
Illinois		
Albion	Majestic	June 8-9
Alton	Hippodrome	March 7-11
Benld	Grand	March 15-16
Charleston	Lincoln	Feb. 23-24
Chicago	McVickers	April 4-18 changed from Feb. 28
Effingham	Opera House	May 23-24
Gillespie	Pert	March 8-10
Greenup	Gem	May 4-5
Lawrenceville	Avalon	March 9-10
Mattoon	Mattoon	Mar. 15-16 changed from March 7-8
New Athens	Community	April 17-19
Nokomis	New Palace	April 27-28
Pana	Palace	April 25-26
Rock Island	Ft. Armstrong	Feb. 20 changed from Feb. 13
Shelbyville	Playhouse	April 6-7
Whitehall	Princess	April 14-15
W. Frankort	Majestic	April 25-28
Iowa		
Cedar Rapids	Majestic	April 3-9
Clarinda	Rialto	March 6-9
Clinton	Rialto	March 6-10
Council Bluffs	Strand	April 3-6
Davenport	Columbia	Feb. 19 changed from Feb. 13
Dubuque	Grand	April 3-9
Hamburg	Colonial	June 14-16
Marshalltown	Legion	March 20-26
Mason City	Cecil	April 6-8
Sioux City	Star	June 4-11
Storm Lake	Princess	April 25-27
Waterloo	Plaza	April 24-30
Whiting	Opera House	April 26-28

(*Continued on page* 192)

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

A Fire from Spontaneous Ignition

To the Editor:

I would like very much to have your opinion on this fire: In one of the supply rooms in our National guard units here there was a wooden box with one dozen olive drab wool shirts in it. These shirts had been worn and possibly had some matches in the pockets, but were rolled up with napthalene sprinkled among them.

The building has four brick walls, concrete floor and a heavy plastered ceiling; two doors and one window, practically air tight; and no one has been in this building for a week.

When the captain in command of this unit entered this room it was full of smoke but the fire was out. The shirts and box were partly burnt.

We received no alarm on this fire. How did it start and how was it put out?

Yours truly,
B. G. W.

Answer: I am at a loss to know how the fire started. Green wool, particularly if baled when moist, will ignite by spontaneous ignition but where it has been made into shirts and treated before manufacture, the story is a different one. There is a possibility that sufficient oil and moisture were present to produce spontaneaous ignition. This, I am inclined to believe, was the cause of the fire although if I had been asked before the fire to give an opinion as to whether or not the bundle would take fire, I certainly would have said "no."

The absence of any other probable cause leads me to believe that it was spontaneous ignition. The presence of matches would not start the fire although they would be inclined to speed it up once a temperature had been created through chemical reaction within the bundle.

As to why the fire went out of its own accord, probably the explanation to this phenomena lies in the fact that the room was air tight and that the oxygen within the room was quickly depleted, leaving the fire to die out from lack of oxygen.

There have been a number of cases where fires were started within confined rooms and flashed quickly over the contents of the room, but burned themselves out due to the exhaustion of the oxygen supply. This would seem to be in this case the reason the fire went out as mysteriously as it started.

Of course, there may be other reasons both for the start and the extinction of the fire, but in the absence of specific data I would be inclined to say the fire started from spontaneous ignition and went out due to depleting the supply of oxygen in the room.

Battalion Chief Examination Questions

To the Editor:

Herewith enclosed are five questions with answers, which I would like to have submitted to your Questions and Answers department for a marking on each question.

I submit below a few points which might be a help to the market: In question 1, two Division Fire Marshals have been appointed and assigned to fire alarm for the purpose mentioned in the question. Also, system is joker type, manually operated, and alarms come in very rapidly, much faster than the mechanically operated fire alarm system. This is especially so in the case of the large number boxes, which, however, emphasizes the present system.

In question 2, plenty of water can be had in any part of the city on streets where the 24", 30", 36", or 48" feed mains are installed but, even close to the pumping station on streets where the branch mains extend from feeders, difficulty has been experienced. Thirty pounds pressure is the minimum maintained at the pumping station. This can be kept up even when working at large fires and which require large capacities and a great distance from station when operating from or very close to feeders. You cannot call for more than 30 pounds at the station as they are low pressure mains. Also, it may be of interest to you to know that they have very little knowledge of friction in this department, especially so from a water main standpoint. In many cases mains are overtaxed due to this lack of knowledge.

I assume that it is understood that friction in these lines is up to company commanders.

These are battalion chiefs' questions and were ten in all with a time limit of three hours to answer same, which was very short.

Respectfully,
T. T. J.

Question 1: What would you suggest as improvements to our present fire alarm system? Explain in detail.

Answer: In my opinion the present fire alarm system is quite efficient. There are, however, some points in its supervision which I think if practiced would make it more efficient and reliable. First, the still alarm system is very unreliable. On such alarm only one engine, one H. & L. Co., and one Squad Co. respond. If the engine company should have an accident while responding, especially so in the early hours of the morning, it would cause quite a delay in getting a telephone to notify the F. A. Office to send another engine company. Notwithstanding this drawback, there are many things which could occur to a pumper after it arrives and while working at a fire. This would result in a delay at the critical moment which may cause fire to quickly extend to conflagration proportions and for this reason I would suggest that the next nearest motor engine company follow to same location on all still alarms, and if conditions in their immediate districts warrant, an automatic change of quarters to one of said company's in the unprotected section be made. Where large fires are in progress or occur I recommend that an official of the active fire force (one who is thoroughly familiar with fire hazards in different sections of the city) respond to the F. A. Office and assist the operators in changing companies closer to fire and special call alarms for more apparatus.

Also, an alarm index card similar to that in use in the New York Fire Department, and more fire alarm boxes installed throughout the city would be a considerable improvement.

Question 2: What benefit does our Fire Department receive from members making building inspections? State your reasons for or against such inspections.

Answer: The inspection of buildings and the districts surrounding same as to water supply, exposures, etc., in my opinion constitutes 75% of the efficiency in fire fighting if the officer is capable and efficient, and should be made because he can preserve a mental picture of the situation. He can also note all violations of fire prevention laws, locate special hazards, outline a method of attack from every probable cause of fire, rescuing inmates, proper ventilation of building, etc. He can study the nature of contents under the application of water, heat and flame, then when the opportune time presents itself, readily adopt the best method of extinguishing and preventing spread of same with the minimum damage to building and the contents. The latter at times are of such nature that with the application of water, heat, or flame in combination may cause gases to generate which are very dangerous to the health. If proper ventilation is not affected and the best of intelligence used upon entering the structure an explosion or back draught may occur, which is the greatest enemy of firemen in fighting fires.

Question 6: State the various sizes of hose in the department and the advantages or disadvantages of each size.

Answer: The sizes of hose in use are: 2½", 3", 3½", and some 4½", (used on water towers) 50' on each tower. The advantage of large hose over the smaller type is very great inasmuch as the laws for liquids flowing through pipe or hose state that to double the capacity of flow quadruples the friction. Likewise to double the diameter diminishes the friction by the fourth power approximately and to produce effective streams at fires it only requires very small nozzle pressures in comparison with engine or pump pressures. Nozzle pressures range from 40 to 60 pounds for small or 1¼" tips and from 60 to 110 pounds for large tips. But in order to produce this very small pressure with 2½" hose in use, it is at times necessary for an engine perssure of from 200 to 300 pounds in extreme cases. So it is obvious that conservation of friction in fire hose is a very great factor. At a recent test with all 350' leads, 1¼" tip, 75 lbs. E. P., the 2½" hose gave a N. P. of 23 lbs., the 3"-36 lbs., and

the 3½"–48 lbs. Of course the greater the capacity required, or the greater the distance water has to be conveyed through fire hose the greater the advantage the larger hose in proportion has over the 2½" hose. In my opinion the only disadvantage for operating inside is that it is too clumsy to handle, but for this purpose 2½" hose is used when stretching. There is a slight loss making these connections.

Question 7: What recommendations would you make to improve our city water supply from a fire fighting standpoint?

Answer: To improve the water supply from a fire fighting standpoint I would recommend that larger mains be replaced with smaller ones. Those of 6" are of little use unless very close to the feed main. Also install a high pressure system in the high value district, especially in the downtown and close in west side; compel Battalion Chiefs to learn how to figure friction loss in water mains and to check up on branch offs from feeders in their districts. By so doing they would be familiar with its capacity so when the occasion presents itself they may be able to readily locate their pumper to a supply without overtaxing the branch off mains there by taking supply from pumpers operating with short leads which results in ineffective streams (in case where pumper is close to fire insufficient water and in the other due to friction in long leads). At large fires I would recommend that the immediate Battalion Chief should have charge of locating companies to a water supply. He should be with the officer in charge of the fire at all times during its progress and act as his first aid. When the companies report for orders they should be referred to him for the water supply—then hold company commanders responsible for effective streams.

Question 10: What would be the advantages of an officers school as a part of the drill school? Explain in detail.

Answer: The advantage of an officers school would be to educate them to one method of doing and performing duties, thereby causing machine-like work throughout the department and cause same to operate as a unit at large conflagrations. They would learn fire prevention inspection, building inspection, scientific fire fighting, the science of chemistry insofar as it pertains to fire fighting, hydraulics, scientific ventilation, handling of men, discipline, and everything in general fire administration which is necessary to combat fires successfully. Also public speaking, that they may go before the public and spread fire prevention and control measures.

Editor's Comment

Answer 1: In the answer as given by you, you have overlooked several important points.

Probably the first suggested improvement would be recommendation to increase the number of fire alarm boxes so that at no time would a person transmitting an alarm have to travel more than one block to get to a box. This is by all means the most urgent recommendation and one which will do the most toward speeding up the operation of the fire department and checking fire loss.

Following your answer a little further you make a suggestion for the assignment on still alarms, suggesting that a second pumper follow the first. This suggestion is not in line with the question. The question asks as to the improvement of the fire alarm system, and apparently infers no change in the operations of the department.

As a matter of fact the practice usually followed in large cities nowadays in the event of a fire truck breaking down enroute to a fire or going out of service at a fire is to send in a break-down signal by way of fire alarm telegraph Morse Key. Suppose for instance an engine is reporting to a fire and breaks down. The officer of the company should immediately go to the nearest fire alarm box, open the box, use the Morse key and send in a break-down signal. The man on the platform at fire alarm headquarters thereupon sends another company to the location to cover the assignment which the first company is unable to complete.

The same thing applies at a fire. If an engine goes out of commission at a fire it is only necessary to step to a fire alarm box and send in a break-down signal. The fire alarm headquarters then sends out a company to cover the assignment. This is the way the big departments get around the difficulty in the event of a breakdown and it is a very satisfactory method judging from the fact that in most cities where still alarms are transmitted only one engine company is sent in addition to the ladder company.

You suggest that where large fires are in progress an official of the active force report to fire headquarters office and assist the operator in changing companies closer to the fire and take care of special calls for more apparatus.

A properly arranged fire alarm running card system takes care of this automatically. When a second alarm is transmitted requiring shifting of location of some companies, this is automatically covered by the running card of the various companies and should require no special detail on the part of the fire alarm headquarters office.

Likewise with third and fourth alarms. All of these subsequent alarms, which are transmitted to the companies in the areas affected by them, call for certain changes in location of companies. In this way a task which would otherwise be very unwieldy and impracticable is handled without confusion.

Your suggestions regarding an officer going to headquarters would therefore be an impracticable one and one which could better be replaced by an up-to-date running card system. This, by the way, is a suggestion which should be incorporated in your answer.

The placement of all wires under ground, if they are not already under ground, is most essential. It eliminates the usual delay caused by heavy storms which flatten out signal wires strung along poles. In view of the fact that full details are not on hand regarding your present fire alarm equipment further suggestions cannot be made.

Not knowing the scale for marking paper in your civil service commission, the figures given in this and the following answers are of course arbitrary. On the basis of ten for a perfect answer, a credit of seven would be allowed on your answer.

Comment Answer 2

You have apparently failed to read the question through fully. You will note that the last part requires that you state your reasons for or against such inspections. You have given no arguments against such inspections although you have given them in favor of the inspections.

Against such inspections would be the following points: Where the fire department personnel is limited, drawing the men away to put them on inspection work reduces the effective strength of the department, particularly where a large fire requires a large number of men. Where fire companies are manned by a single officer, and the officer is required to go on inspection work it necessitates either replacing him by another officer or designating one of the first grade firemen to act as commander in his absence. Neither of these two practices is desirable. The replacement of an officer in a company by a strange officer is not always conducive to efficient operation while designating a first grade fireman as an officer has many drawbacks.

On the basis of the above omission a credit of eight is given this answer.

Comment Answer 6

You again did not follow closely the requirements of the question. Note the question states that you are required to give the various sizes of hose in the department and the advantages or disadvantages of each size.

You have answered the subject in a general way but have not been specific and the absence of comment on each particular size would result in deduction from the credit of the problem.

To review quickly the advantages and disadvantages of the various sizes of hose the following may be said:

2½ Inch Hose: The most flexible of the four sizes named and best for use where the hose has to be snaked into a building, up stairways, up fire escapes or other points where flexure is necessary. Satisfactory for all small fires and for short stretches at large fires.

Disadvantages of the 2½ inch hose include the comparatively high friction loss encountered in its use, the limited capacity where large streams are being employed.

3 Inch Hose: Advantages include greater carrying capacity than the 2½ inch making it possible to have longer stretches with the same drop in pressure. Also satisfactory for use with a large nozzle, particularly where two parallel lines are laid. Not nearly as flexible as the 2½ inch hose and so is not suitable for use within buildings or up ladders.

It is not so bulky but what it can be handled for most long stretches and is finding increased use from year to year in fire departments throughout the country due to its greater carrying capacity, its lower friction loss, and its ability to furnish water to large nozzles without excessive drop in pressure.

3½ Inch Hose: 3½ inch hose is a big improvement over the 3 inch hose from the standpoint of friction. It has less than one-half the friction loss of 3 inch hose and thus can be used for very much longer stretches and can supply larger nozzles than can 3 inch. For a given flow of water a line of 3½ inch hose 580 feet long has the same friction characteristics as a line of 3 inch hose 260 feet long.

The disadvantages of the 3½ inch hose are its cumbersomeness, its unweildliness for all services except for street service where there is plenty of room. It is far too heavy and too rigid when charged to be used on any but level surfaces where a number of men can work with it.

(*Continued on page* 195)

BACK DRAFT INJURES 15 FIREMEN IN SEVERE WASHINGTON, D. C., FIRE

Four of the Men Were Injured Seriously—Worst Fire in District for Some Time—Business Block Threatened

BACK draft at a recent fire in a building occupied by a musical instrument dealer in Washington, D. C., injured fifteen men, four seriously, and helped to intensify a blaze that resulted in $150,000 damage.

Five alarms were sounded calling out twenty-seven fire companies with a force of two hundred men. When the first company arrived, the fire had spread through an elevator shaft and had broken through the roof. The blaze originally was in the rear portion of the cellar, and it is believed to have started from the careless use of matches.

Courtesy Washington Post

Water Tower and Turret Pipes in Use at the Fire in the Mercantile Section of Washington, D. C.

Firemen Severely Injured

Six firemen of one company who were trying to force their way into the building were blown out the front entrance by a back draft. Following the explosion an emergency call was sent for doctors and surgeons. A large piece of glass struck one of the lieutenants and almost severed his jugular vein. One of the firemen's hands were burned to a crisp, and doctors say that grafting skin onto them is the only possible means of saving them.

Fire spread through the structure as though it was built of tinder, and before the flames could be checked, the building next door caught on fire.

There was plenty of water available to fight the blaze but the firemen were hampered by the large mass of ice that formed. Twenty pumpers of the Seagrave and American-LaFrance make were used to supply about twenty-five hose streams. In addition to the pumper, a water tower, turret pipes, helmets and masks were used.

One of the nearby restaurants supplied the firemen with hot coffee and sandwiches.

President Coolidge, returning from church in his automobile, ordered his chauffeur to stop so that he could get a view of the firemen at work. He was particularly interested in the ice-coated pumpers and fire apparatus.

Chief George B. Watson and Deputy Chief Andrew J. Sullivan declared the fire was one of the stubbornest that they had fought in several years.

GASOLINE EXPLOSION CAUSES LOSS OF TWO AUTO ESTABLISHMENTS

A Spring Company and a Service Company in Pittsburgh Lose Plants in Resulting Fire—Three Alarms Sounded

By WILLIAM E. PATTERSON,
Bureau of Fire, Pittsburgh, Pa.

FIRE marked by two explosions, evidently gasoline, in the plant of the Pittsburgh Auto Spring Company, located at 5915-5919 Center Avenue, in the East Liberty automobile and business section, of Pittsburgh Pa., late at night recently, completely destroyed the structure and spread to the building occupied by the R. E. Loughrey Reo Service Company at 5905-5913 Center Avenue, also a one story brick structure and for a time threatened to spread through the entire block.

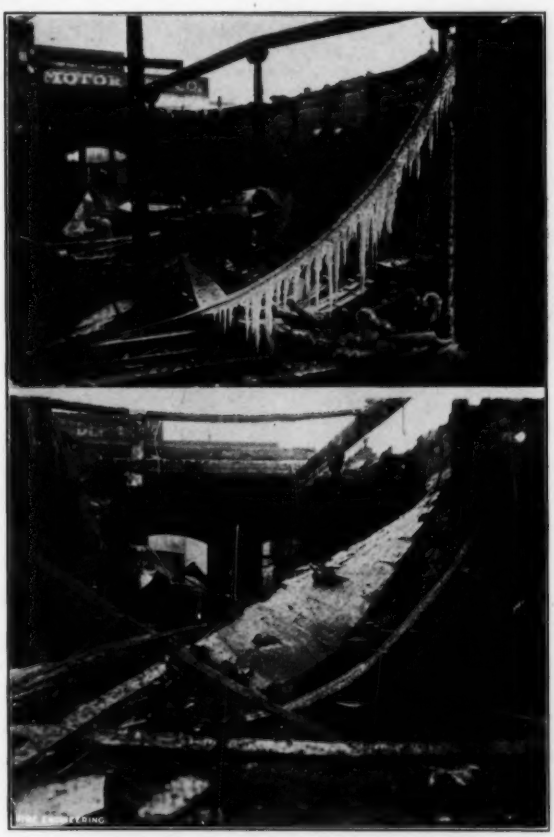
When firemen arrived, called on the first alarm the flames had already spread through the structure, had extended to the Reo Service Company's plant and were threatening nearby buildings, the intense heat from the flames which were shooting above the roofs of the burning buildings and rolling half way across Center Avenue, igniting and burning telephone poles and light wires, the wires falling into the street.

A high wind which fanned the flames, and the bitter cold, the temperature being close to the zero mark, made the work of the firemen difficult, the water from the streams freezing as it fell, but the firemen under the direction of Chief Richard Lee Smith and his officers, brought the blaze under control, after an hour's hard fight and prevented any further spread of the flames through the block.

Hot coffee was served the firemen by the Sisters of Charity from the Sacred Heart Parish.

Three alarms were sent in for the fire from Station 6112, located at Center and South Highland Avenues, which is two long blocks from the scene of the fire, calling into service eight engine companies, one hose company and two truck companies.

Station 613 at Center Avenue and Beatty Street, almost di-



Two Views Showing Complete Destruction Wrought by Fire in Pittsburgh Auto Spring Company and Reo Service Company Plants at Pittsburgh, Pa.

rectly across the street from the burning buildings was also pulled for the fire but was not sent out to the fire stations by the fire alarm operator, it being a vicinity firebox.

Station 6112 being pulled first and responded to by the various first alarm companies, resulted in some of these companies going out of their way and being more or less delayed in answering the alarm and reaching the scene of the fire. The fire was discovered by a pedestrian passing the building shortly after eleven o'clock who turned in the first alarm from Station 6112.

The first alarm at 11:05 p. m. was answered by Engine Companies No. 8, 16 and 28 and Truck Company No. 8 in command of Fourth Battalion Chief, John H. Frazier. Immediately upon his arrival, Chief Frazier seeing that a serious looking fire was in progress and making rapid headway, sent his aide to send in the second alarm at 11:12 p. m. which was answered by Engine Companies No. 14, 6 and 38 and Truck Company No. 14 and Chief Smith.

The third alarm at 11:25 p. m. was answered by Engine Companies No. 34 and 24 and Hose Company No. 36 in command of Acting Third Battalion Chief Edward J. Carter. A force of seventy-two uniformed firemen were on duty at the fire.

Thirteen pumper streams and two engine streams with shut-off nozzles and 1-inch and 1¼-inch tips were used in extinguishing the fire, with 8350 feet of two and one-half inch hose, all cotton rubber lined and 292 feet of ladders. The longest line of hose used at the fire was 1150 feet from No. 24 pumper. Two sections of hose burst during the progress of the fire.

A sufficient number of four and one-half inch single and double opening Ludlow fire hydrants connected to four, six and twenty-inch water mains gave the firemen a good supply of water with which to fight the fire.

Twelve pieces of fire apparatus of the following makes and types, all motor driven and tractor drawn, were in service at the fire. Six American-LaFrance 750-gal. triple combination pumpers; One 700-gal. Metropolitan steam fire engine drawn by an American-LaFrance tractor; Three American-LaFrance combination hose and chemical cars; One 75-ft. American-LaFrance aerial truck and one 75-ft. Seagrave aerial truck, drawn by an American-LaFrance tractor.

The burned buildings fronted on Center Avenue, a distance of 150 feet, extended back to Commerce Way, a distance of 130 feet and were of brick and tile construction, with no basements, the first or ground floor being of concrete and the roof of gravel with wooden joists, supported on heavy wooden columns.

The duration of the fire was seven hours and fifteen minutes, being struck out at 6:15 a. m.

The loss to buildings and contents will be approximately $100,000.

Chief Kenlon Narrowly Escapes Injury at Fire

Chief John Kenlon of the New York fire department and some of the men narrowly escaped severe injury in a fire that caused a $1,500,000 damage in a fur and gown shop at the corner of Broadway and 74th street recently. Chief Kenlon and nine firemen were knocked down and buried under broken plaster and lath, but the greater part of the debris fell against a partition that had already collapsed, and this prevented the weight of the debris from falling directly on the men. Although he complained of pains in his back and stomach after the incident, the chief refused to leave the scene until the fire had been put out. The large amount of furs stored in the cellar by those wintering in Florida, and the large amount of furs on hand, accounts for the great fire loss.

Danville, Ky., to Purchase Ladder Truck—Danville, Ky., will purchase a ladder truck.

Army and Navy Figure in N. Y. Fire Losses

First the army, now the navy, figures in the mid-winter fire losses in New York City. On January 5, as recently reported in FIRE ENGINEERING, the U. S. Army, Department of the East, had a disastrous fire on Governor's Island. On February 9, at about the same hour of the evening that marked the Governor's Island fire, a blaze broke out in the Brooklyn Navy Yard, resulting in damage estimated at $1,500,000.

The fire swept the ordnance dock, requiring the city fire department to respond to a fourth alarm. As usual, the fire was handled unsuccessfully by the sailors and marines before the municipal fire department was summoned. A bonanza in sheet copper and steel in the warehouse was reduced to junk. Several anti-aircraft guns were ruined or put out of commission.

Brooklyn Navy Yard Suffers $1,500,000 Fire.

Fire which destroyed three wooden storehouses in the Brooklyn Navy Yard and damaged large quantities of metal, finished and unfinished, caused a $1,500,000 loss to the government. The fire started in a one-story building used as a vegetable storehouse near the ordinance dock. The flames spread to a two-story building that was used as a garage, and at this stage in the fire, the city fire department was called. Previously an attempt was made to fight the fire with the private fire department of the navy yard. In addition to fighting the fire by land, the fire boats, The New Yorker, John Purroy Mitchell, the Abraham S. Hewitt, and some navy tugs fought the fire from the water front. Four alarms were turned in, and it was after a two hour battle that the fire was considered under control. The above photograph shows the general view of the ruins.

The fire started in a cold storage plant for vegetables used aboard the Receiving Ship Pueblo. The ship was badly scorched. If it had not been for the fireboats John Puroy Mitchell, and The New Yorker, the flames would have done considerably more damage. The only thing salvaged in the frame structure, which was built during the war, were two automobiles, which were pushed out of the building by sailors soon after the fire started.

W. J. DALY.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands. Week ending February 11.

CURRYSVILLE, PA.—Plant of Abbott Dairy Co	50
PAWTUCKET, R. I.—Marcotte Bldg. damaged	40
DERBY LINE, VT.—Store of Caswell & O'Rourke Co	40
PLANT CITY, FLA.—Capitol Theatre destroyed	40
NORTHVILLE, MICH.—H. German Recreation Bldg	35
SIOUX CITY, IA.—Sioux City Stock Yards Co	30
HAMILTON, ONT.—Plant of Atchison Lumber Co	80
SPARTA, MICH.—Methodist church destroyed	65
SIOUX CITY, IA.—Plaza Theatre damaged	70
HOLDERNESS, N. H.—Davison Motor Car Co	75
GRANVILLE, O.—Business block damaged	40
AUBURN, IND.—Business establishments destroyed	65
COLUMBUS, O.—Columbus Bldg. damaged	200
SHERIDAN, WYO.—Eaton Brothers Ranch destroyed	40
KEWANEE, ILL.—Huffman Buick Garage destroyed	40
WHITE PLAINS, N. Y.—Hicks storage warehouse	80
TOLEDO, O.—First Congregational Church and parish	170
TERRE HILL, PA.—General Cigar Plant and dwellings	80
CHICAGO, ILL.—Newman Bros. Co.; Metropolitan Picture Co.	425
NATICK, MASS.—Wilson House, Summer St	65
SYRACUSE, N. Y.—Dwelling at 104 Davis Street	25
JAMESTOWN, N. Y.—Woodard Building, damaged	65
CHICAGO, ILL.—Lake Forest Academy	25
MADERA, PA.—Several business establishments	25
ANN ARBOR, MICH.—Wing of University Hospital	45

LAURIERVILLE, QUE.—Store of E. J. Rousseau..... 25
DIEHLSTADT, MO.—Business establishments destroyed..... 25
WORCESTER, MASS.—Mill of American Steel & Wire Co.... 125
EVANSTON, ILL.—McKinnie Building damaged..... 80
BUFFALO, N. Y.—1279 Niagara St. and adjacent property... 25
LOCKPORT, N. Y.—Sharpsteen Garage destroyed..... 25
AMBLER, PA.—Barn on farm of M. K. Harr, Norristown Rd. 55
SARNIA, ONT.—Yacht "Siesta" owned by H. I. Hellmuth.... 85
TORONTO, ONT.—Merrill Bldg., Church Street..... 25
WESTMONT, ONT.—Quinlan Cut Stone Company..... 40
MILESTONE, SASK.—Milestone Hotel and adjacent property. 35
AMBRIDGE, PA.—Machine Shop, Standard Seamless Tube Co. 400
MILWAUKEE, WISC.—Bldg. and contents of Anger, Inc..... 25
FRESNO, CALIF.—Plant of Valley Body & Radiator Works.. 80
FAIRFIELD BEACH, CONN.—Fairfield Beach Inn destroyed. 25
LEXINGTON, KY.—Star Furniture Company Bldg..... 40
PITTSFIELD, MASS.—First Baptist Church, Main St..... 25
BROOKLYN, N. Y.—Warehouses at Brooklyn Navy Yard.... 120
MARSHALL, MO.—Mill of Goodwin & Fletcher..... 45
MICHIGAN CITY, IND.—Elevator of LaCross Coal Co..... 25
HAMPTON FALLS, N. H.—Property of Mr. H. Bertwell..... 40
NASHVILLE, TENN.—Elevator of Nashville Warehouse Corp.. 180
WARRENSBURG, N. Y.—Crandall Block and adj. property.... 180
MONETTE, ARK.—Two stores and theatre..... 25
OTTAWA, CANADA.—Shipping plant of J. Oliver & Son Co.... 40
CHICAGO, ILL.—Store of Modern Clothing Co..... 25
SLIDELL, LA.—Packet "M. A. Grace," Baton-Rouge New Orleans Packet Line..... 25
FOREST CITY, PA.—Bldg. owned by Henry Wise..... 25
TOMPKINSVILLE, S. I. N. Y.—Victory Apartments damaged.. 40
ABINGDON, VA.—Warehouse of Va.-Tenn. Grocery Co..... 45
TUXEDO PARK, N. Y.—Masonic Bldg. and adj. property.... 75
WAYNESFIELD, O.—Citizens Bank and adj. property..... 25

Week Ending February 14.

MORGANZA, PA.—Penna. Training School (Adm. Bldg.)..... 85
WEST PENN, PA.—Zion Lutheran-Reformed Church..... 25
HASTINGS, PA.—William Broberg Garage destroyed..... 50
TORONTO, ONT.—Advance Glass Co. & Toronto Show Case Co. 25
WATSONVILLE, CALIF.—Two churches and adj. property.. 40
TYLER, MINN.—Main bldg. of Stork Brothers Co..... 25
BLYTHEVILLE, ARK.—Home of W. Wilkes destroyed..... 30
ST. LOUIS, MO.—Bldg. occupied by Schliecher Paper Box Co.. 30
BANGOR, ME.—The Coe Bldg. and adj. property..... 800
SANTA BARBARA, CALIF.—Main bldg. Rockwood Inn..... 40
CORAL, MICH.—Thomas Kain garage with contents..... 25
E. ST. LOUIS, MO.—Illmo Hotel, damaged..... 40
CLYMERS, IND.—Hirsch Brothers Grain elevator..... 60
ALEXANDRIA, IND.—Plant of General Insulating Co..... 80
OXFORD, MD.—Residence of H. Downes of Phila..... 40
OXFORD, N. J.—Cryan Dance Studio Bldg. destroyed..... 60
OAKLAND, CALIF.—Garage of Weaver-Wells Auto Co..... 40
DENVER, COLO.—Warehouse, Universal Store Co..... 40
WEST PALM BEACH, FLA.—Municipal garage destroyed.... 100
NORTH ADAMS, MASS.—First M. E. Church bldg..... 80
MORRISVILLE, N. Y.—Business establishments damaged..... 25
FAUST, N. Y.—Grand Union Hotel, N. Y. Central Station..... 40
ALTOONA, PA.—Grant Department Store damaged..... 65
ANNISTON, ALA.—Bldgs. at Camp McClellan damaged..... 40
HAVRE, MONT.—Earl Clack Bldg. destroyed..... 180
NEW ORLEANS, LA.—Bldg. of Coe Belting & Supply Co..... 80
WORCESTER, MASS.—Merrifield Bldg. damaged..... 25
WINTHROP, N. Y.—Bldgs. on farm of J. E. Bero..... 25
CONCORDIA, KANS.—Office bldg. of Kansas Power Co..... 40
HOT SPRINGS NATIONAL PARK, ARK.—Two business estab. 30
DUNLAP, TENN.—Business establishments destroyed..... 40
S. NEW BERLIN, N. Y.—Parker Dept. Store and adj. property 50
CRAMERTON, N. C.—Cramerton Drug Store destroyed..... 25
WILLIAMSPORT, PA.—Linck Block damaged..... 80
BOWESMONT, N. DAK.—Business establishments destroyed.. 25
PONTIAC, MICH.—The Charles E. Waldo Block..... 80
GLENMOOR, O.—Howard Chamberlain Garage and contents.. 25
CHICOUTIMI, QUE.—Building owned by P. Paradis..... 40
WESTMOUNT, ONT.—Property of Quinland Stone Co..... 40
MONTREAL, QUE.—Factory of La Cie Carriere Et Frere..... 25
WELLSTON, O.—L. P. Gilfoyle business block..... 25
EVERETT, MASS.—Le Bow Bldg, School St..... 35
CHEYENNE, WYO.—Bldg. of Cheyenne Wood & Hide Co..... 35
HAILEY, IDAHO.—Bldg. formerly occupied by Blaine Co. Bank 25
WORCESTER, MASS.—Hotel Burton..... 30
HAMMOND, IND.—Bldg. of Minas Furniture Co..... 250
ATHOL, MASS.—Millers River Bank Bldg..... 25
PICHER, OKLA.—Standard mine damaged..... 50
MOUNT CLAM, TEX.—Business establishments, incl. State Bank..... 30
MECHANICSBURG, PA.—Fruit warehouse of J. A. Cocklin.. 30
NORTH READING, MASS.—First Baptist Church..... 25
NORTH BARNSTEAD, N. H.—Endas School..... 30

Church Hill, Md., Acquires Pumper—A Howe-Ford pumper has been delivered to Church Hill, Md.

Los Angeles, Cal., to Construct Fire Boat Slip—Land has been secured for the construction of a fire station and a fire boat slip in Los Angeles, Cal.

Ft. Lauderdale, Fla., to Have Fire Alarm—A Gamewell fire alarm system is being installed in Ft. Lauderdale, Fla. The city will use the poles, conduits and under-river cable of the telephone company for the new system.

Lakewood, Ohio, Has New Fire Station—The Kiwanis Club has taken charge of the dedication of the new fire station erected in Lakewood, Ohio, at a cost of $28,000. They will be host at an open house. The station will house a pumper.

Minneapolis Plans to Add 77 Men—A member of the fire committee in Minneapolis, Minn., recommended that the city abandon the plan of erecting a $185,000 central fire station and consider the addition of seventy-seven more firemen to the department.

School Destroyed at Front Royal, Va.

Ten people were hurt in a fire that destroyed the Randolph Macon Academy at Front Royal, Va., in an early morning fire.

The brick buildings occupied a plot of ground ten acres in area about one-half mile from the corporate limits. The private protection consisted of a standpipe with fire department connections, and a hydrant connected to a four-inch main that was supplied by a gravity water system.

When the fire department arrived, the basement and the first

View of the Damage at the Randolph Macon Academy

1—The picturesque buildings and grounds of the academy at Front Royal, Va. 3—Fire photographed from its own light in the early morning. 2 and 4—Scenes of the ruins after the fire burned itself out.

floor were on fire. Efforts to save the buildings were useless, and the place was destroyed in two hours. The cause of the fire is unknown, but the blaze is believed to have originated in the basement.

Famous Florida Hotel Destroyed

Fanned by a shifting wind, fire destroyed the Magnolia Hotel in the center of the business section of St. Augustine, Fla. Aid was rushed from Jacksonville, South Jacksonville and Palatka in order to prevent the fire from spreading to other sections of the mercantile district. At the time of the fire, there were 102 guests in the building but no injuries or loss of life was reported.

The building was constructed of wood eighty years ago and it occupied half of a city block. The fire started from an unknown cause in an elevator shaft—the alarm was received

Bird's Eye View of the District About the Magnolia Hotel Taken During the Fire.

at 1:30 p. m. By the time the apparatus arrived, the flames had broken through the roof.

Four American-LaFrance pumpers were used, including two from the neighboring towns. The operation of the apparatus was hampered by the narrow streets.

Chief McMillan with a unit of the Jacksonville fire department made the trip to St. Augustine in thirty minutes. The city officials were greatly indebted to the neighboring departments for the assistance given. The loss is estimated at between $50,000 to $100,000.

NEW YORK CITY TO ENFORCE COMBUSTIBLE PARTITION RULING

All Fire-Resistant Buildings in Which Manufacturing Is Carried On Must Have Such Partitions—Vigorous Enforcement Campaign

By WM. JEROME DALY

THE Fire Department of New York City, and more particularly the Bureau of Fire Prevention is now engaged in waging a vigorous campaign of enforcement of one of the provisions of the State Labor Law which requires that all partitions in the interior of fireproof buildings erected subsequent to October 1, 1913, shall be of incombustible material.

The campaign is predicated on the unanimous decision of the New York State Court of Appeals upholding the provisions of the law. The decision has resulted in thousands of prosecutions through the medium of the service of court summons to the Municipal Term of the Magistrates' or Police Court.

It affects principally the garment trades, such as cloaks, suits, and wearing apparel in general. The peculiarly interesting, if not extraordinary feature of the law and its interpretation by the court is that it does not apply to nor effect buildings erected prior to October 1, 1913, which in most instances are not as fire resisting as those erected since that date. It means that thousands of firms with show rooms in New York City will now have to dismantle all of their partitions and erect incombustible partitions, if only one occupancy in the building is engaged in manufacturing.

In other words, if a skyscraper tenanted principally by firms that sell and show, but do not manufacture, has but one tenant that does some manufacturing, no matter how little, all the other show rooms and sales rooms in that structure will have to be partitioned or subdivided with incombustible material.

The fire department is enforcing the regulation. The law is plain and the decision is quite understandable. The determination to enforce it grew out of the following state of facts:

A corporation owning a building at 242 West 36th Street, was convicted in the Court of Special Sessions and fined $20 for having violated the provisions of Section No. 270 of the Labor Law which reads as follows:

"No factory shall be conducted in a building erected after October 1, 1913, which is more than one story in height unless such building shall conform to the following requirements:

"6. Partitions. All partitions in the interior of fireproof buildings shall be of incombustible material."

The Appellate Division reversed the conviction and the city's Law Department appealed to the Court of Appeals at Albany. The latter tribunal wrote the following decision:

"The defendant owned a tenant factory building, a thirteen-story structure. The building was of fireproof construction. It was leased to different tenants. On the floors occupied by more than one tenant fireproof walls separated the leased parts. The defendant never erected any wooden structures in the building. Tenants, however, after occupancy erected frame divisions or partitions so as to separate their holdings into offices or rooms.

"The tenant had built partitions of wood and glass running to the ceilings, also of wood and wire work which divided the floor space leased by him into a factory, stock and shipping room and different offices. The rooms were eleven feet high and some of these partitions extended to the ceiling securely fastened. Others did not go above six feet.

"The reason for the requirements of the Labor Law is quite apparent. Factory buildings are no longer, in large cities, low structures. Manufacturing is carried on in buildings of great height. These buildings must be fireproof and their partition walls fireproof. Floors must be of certain non-inflammable material. The Labor Law provides that elevators and stairs shall be so constructed as to afford easy exits and prevent fires. Many operators are employed in these high factory buildings in manufacturing, as in this case, dresses and coats. Women and girls are employed. Wood that can easily be burned is to be eliminated from such structures and the interior of such structures as far as possible and convenient. To what extent this shall be done is fixed by the Labor Law.

"Interior wood work of a substantial nature dividing off floor space into offices may be readily burned causing panic and injury on the particular floor or in a particular factory even though other parts of the building are not affected by reason of their fireproof construction. The Labor Law, therefore, says that the interior partitions shall be of incombustible material. It is agreed that the interior partitions in this building, dividing these floor spaces as constructed by the tenants, were not of incombustible material.

"Upon the owner is placed the obligation of keeping his building free from these wooden partitions erected by his tenants. The law affords him an opportunity for inspection and for removal.

"As these provisions of law were adopted to minimize as far as possible the risks of fire and prevent disaster to workers and operators, we can see no reason for construing subdivision 6 of section 270 as applying only to partitions which separate the portions leased by the various tenants of a building. If the entire building were leased to one tenant there would then under such construction be no requirement for non-combustible partitions and the risks from fire would be the same as they were before this law so far as partitions and room divisions were concerned."

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(*Continued from page* 176)

of the persons who met death by fire were between 40 and 50 years of age, and most of these had lived in old-law tenements.

Number of Inspections Made

The Bureau of Fire Prevention made 172,497 inspections which was 14,834 more than the number of inspections made in 1925, while the uniformed fire fighting force made 1,126,825 inspections of premises in the interests of prevention. The Fire Prevention Bureau issued 47,926 orders for compliance which was 3,682 less than in 1925, and 38,617 orders were complied with, or 3,465 less than in 1925. The bureau collected $48,189 in fines and penalties imposed for violations of the law.

The Division of Combustibles issued 85,058 permits for which it collected $718,483.55 in fees. Inspectors of this Division seized, opened and examined 20 bombs or suspicious packages, made 804 seizures of contraband fireworks, 20 seizures of unlicensed explosives, conducted 18,000 inspections and supervised the storage and handling of dynamite principally along the ten miles of the route of the City's new subway system now under construction and where four tons of dynamite are exploded daily.

The Division of Public Assembly which has supervision over places of amusement, entertainment, exposition, rinks, baseball parks, arcades, dance halls and boxing clubs, made 3,193 inspections, 47917 reinspections and issued 696 orders. The division assigns firemen to protect approximately 1,000,000 persons daily attending the 419 theatres, 338 motion picture houses, 619 dance halls, 14 boxing clubs as well as 150 miscellaneous skating rinks, arcades, shooting galleries and exhibition halls.

Extensions and Expansions of Fire Alarm

The Bureau of Fire Alarm Telegraph completed contracts for extensions and expansions of fire alarm plant and equipment amounting to $94,967, awarded contracts amounting to $161,976 and prepared plans and specifications for $576,000 worth of improvements in the fire alarm system this year. New cable installed in conduits to replace miles of overhead wire reached the unprecedented total of 92,291 feet. In the recently built-up areas of suburban Brooklyn, Bronx and Queens boroughs, where wooden dwellings have been constructed along extensive tracts of land as yet without underground ducts or public service conduits, considerable mileage of overhead fire alarm circuits have had to be erected ot give these newly developed communities fire telegraph connection.

Personnel of the Department

The year 1926 saw 98 members of the department promoted, 332 appointed, 42 resigned, 9 dismissed, 47 died, 193 retired after twenty years service and 24 retired on the recommendation of the Medical Board. Of the 47 who died, five were killed in the line of duty and three of these were killed in traffic while enroute to the fire.

The department has 6,139 members, 320 fire companies, 662 pieces of apparatus, 15 volunteer companies and 359 volunteer firemen in the suburban sections of Staten Island and Queens.

At some time throughout the year, one half the entire fire fighting force, or 3,339 members were sick and lost 59,395 days from duty due to illness, while 1,161 or 18 per cent were injured and lost 21,859 days, making a total of 4,500 members sick or injured and losing 81,254 days from duty.

The pension rolls on December 31, 1926, contained the names of 3,227 widows, orphans or retired firemen receiving annuities aggregating $2,894,941 of which amount $1,788,345 represents City revenue bonds contributed to offset the deficit in the pension fund.

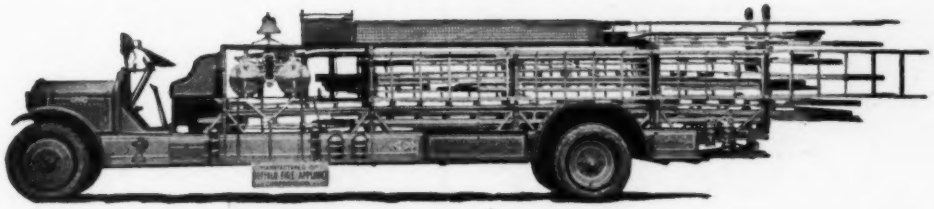
Audience Pushed From Smoky Theatre

Contrary to the usual procedure, the audience of a theatre in Worcester, Mass., had to be pushed from the theatre when smoke from a fire next door curled its way into the building.

The management took the precaution of avoiding a panic and notified that "rain" checks would be given to the people as they left the theatre. But many lingered on to see the motion picture that was still being shown, and many in the balcony had to be forced out. Finally the picture was stopped and the lights put on as a last resort.

The fire did not damage the theatre but the hotel in which the blaze started had a $38,000 damage.

BUFFALO



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OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

RULES THAT WILL INCREASE THE EFFICIENCY OF ENGINE COMPANY

Each Man in the Company Knows Just What to Do—There Is No Duplication of Work With the Attendant Confusion

DO your daily dozen!

Viewed in the critical light of basic fundamentals, the only difference between a volunteer fireman and the much prized snap and sureness of a paid fireman, is practice in the evolutions that go to make up his work so that in times of excitement, the action will be almost automatic.

Of course a volunteer fireman has neither the time nor the opportunity to constantly train himself in the work, but the establishment of a set of regulations that will guide the men, and strict adherence to these rules, will do much to improve the efficiency of the volunteer fire department, and the work of the volunteer firemen.

At the present time, FIRE ENGINEERING, is printing serially, the regulations for the firemen of the New York fire department. Of course, such regulations are not applicable to the small fire department. In order to bridge the gap, ideas will be presented in this column for the volunteer department.

The first company to be considered will be the engine company with a motorized pumper carrying hose. In the organization of this company, each man should be assigned to a specific duty and two alternates should also be appointed to this task. If one is absent, there is another always on hand to take over such duties. The fire board or the chief should appoint some one as chauffeur or driver of the apparatus. In addition there should be No. 2 and No. 3 chauffeur.

This same idea is carried out throughout the company. One man may be assigned to carry the portable chemical extinguisher and another the axe and so on. For each of these assignments there should be a No. 2 and a No. 3 man trained in that particular work.

In the event of fire, the company waits until the required number of volunteer firemen arrive at the fire house. Some chiefs may differ on the number that should be on hand before the apparatus leaves its quarters, but six men can efficiently operate such a piece of apparatus. By waiting for more men, much valuable time is lost, and the truck soon becomes overloaded as everyone is anxious to ride on the apparatus.

The first one of the chauffeurs to arrive becomes No. 1 man. Should Driver No. 3 be the first to reach the fire station, he immediately starts the motor and is in charge of the operation of the motor during the ride to the fire, while at the fire, and during the ride back to the fire station. If No. 1 and No. 2 drivers show up later they report to the fire chief for other assignments. This rule permits one man to start some task and see it through. It also helps to speed up the taking out of the apparatus and the arrival of the full complement of men at the fire station.

The same idea is used for other work. When the apparatus is rolling to the fire, each man on the truck makes a mental inventory of those present. If a No. 2 man sees a No. 1 man on the truck that is assigned to the same work that he is trained in, he knows that the No. 1 man takes charge of that duty, and that at the arrival at the fire, he must immediately report to the fire chief for an assignment.

There is no mad rush of three men running for the axe and leaving the portable extinguishers on the apparatus. Each one knows what to do and does it.

When the apparatus rolls up to the fire, should the fire be a small one, the pumper should stop at the nearest hydrant and a line laid from the hydrant to the fire. Everything is made ready in the event that a hose stream is needed. The chemical line is made ready. The officer, followed by some of his men with the necessary equipment enters the building to make a survey of conditions as to how serious the fire is. Possibly a line from the chemical tank will be sufficient, and then again maybe a hose stream is needed. Everything is in readiness for prompt action. The hose line is laid, the men with the axe, crow-bar or pike-pole know just what to do, and where and when to start ventilating the building. They are trained to do that which is to be done.

The fireman who missed the pumper as it left the fire station, hurries to the fire and reports to the chief, or if the chief can not be located immediately, he should take orders from the man next in command. He should not assume the responsibility of assigning himself to some duty, as unknowingly, he may be duplicating work or adding unnecessary confusion. There is always work of some kind to do at a fire, and regardless of what the task is, each of the firemen has an important task in the extinguishment of the blaze. The man at the hydrant is just as important as the one close to the heat of the fire with a nozzle.

When the fire is out, the hose is rolled up and all the equipment placed back in its proper place on the fire apparatus. Since each man is assigned to a piece of equipment, there should be a check on the return of all various appliances. The possibility of leaving some tool on the grounds should thus be eliminated.

Once back in the fire station, the used hose is taken out to dry, and whatever lengths of hose may have burst at the fire are taken out and placed to one side. The damaged hose is marked so as to indicate the place of fracture. Fresh hose is placed on the truck so that the apparatus is always ready to answer a fire call.

The pump should be flushed out at a hydrant in front of the fire station, and the apparatus cleaned.

An inspection must be made of the gasoline tank and the motor, and if oil or gasoline is needed, this should be attended to immediately. If any of the chemical tanks or extinguishers were used, the tanks should be flushed out and filled with fresh charges. The apparatus and equipment must always be prepared for another fire.

The work should not be left for some other time. The apparatus always returns to the quarters with a large number of men; the distribution of the work will be such that each one will have comparatively little to do. Should the work be put off to the following day, it is hard to round up as many men as were at the station the day previous—the ones that do show up must then bear the brunt of the clean-up work—they will then go home with the feeling of injustice done.

This putting-off policy leaves the apparatus in poor condition to be taken out should a fire occur before the clean-up crew has had a chance to prepare the equipment for another call.

In one town, not so long ago, when a call came in to take out the apparatus, it was discovered that the battery was run down, the gasoline tank was empty and two of the tires were flat.

Repair work should only be done by certain designated men, either on the order of the fire chief or the man in charge of the company repair work. In this way, there will be no chance to introduce some pet ideas of some of the men who like to experiment.

Drills should be held several times a month—the more frequent the better. Each man should be trained in his particular duties, but every fireman should know what each piece of equipment or tool is used for, and should acquire some dexterity in its operation.

Drills are important.

Texas Has Fund for Hose Thread

A bill has been introduced in the state legislature of Texas to appropriate $5,000 a year for two years to provide a fund to standardize the hose threads in the various cities and towns in the state. The bill has been reported favorably, and it is believed that it will pass the legislature.

At the present time there are 352 protected cities and towns in Texas, seventy-five of which have standard threads, 209 with threads which will be easily adaptable and fifty-nine with threads which will probably have to be changed. Due to the large area of the state and the wide distribution of the towns, a large amount of work will be necessary before the threads are rechased to conform to a definite standard.

Patrons Imprisoned in Hot Theatre—Several hundred people in a motion picture house in Lawrence, Mass., were forced to stay inside of the theatre while a fire raged next door. The place became very hot but there was no panic.

Historical Hotel in Amherst Destroyed—A valuable collection of rare books was saved when the Amherst House, a historical hotel at Amherst, Mass., was destroyed with an estimated loss of $250,000. Students from the college formed a line and helped to remove many valuable objects from the burning hotel.

Division Wall Fails to Hold Fire

(*Continued from page* 169)

Second Alarm Transmitted

When it was noticed that the apparatus from the first alarm assignment was not capable of handling the fire, a second alarm was transmitted which brought out the chief, 3 additional engine companies and one truck company.

The assignment on the second alarm was as follows:

Engine Co. No. 4 at hydrant No. 3, and a single line laid up ladder to the third floor of building A on the Paul Avenue side. This line made practically no progress due to the advanced stage of the fire on the third floor and the fact that the rooms intervened between the fire and the street front of the building. Men could not get through the rooms due to the heat and smoke but were compelled to direct their streams toward transoms leading to the hall inside of the building.

Engine Co. No. 5 was placed at hydrant No. 10 and a single line laid to the top floor by the way of ladders. No headway, likewise, was made by this line as fire had entered the various rooms from the hall and made it impossible for the men to get at close range to the base of the fire.

Engine Co. No. 6 was placed at hydrant No. 7 and a single line laid up stairway of building B to the fourth floor. Fire had not entered section B, and the heat was so intense beyond the fire door that the men hesitated to open the door for fear it might come through. As a result of this decision none of the fire doors were employed in the course of the fire for operating on the blaze. They were kept closed, in the hope that the wall itself would prevent the fire from extending from section A to section B. This line laid in by Engine Co. No. 6 was subsequently sent to the roof to operate down light well of section A and assist in whatever manner possible to hold the fire from spreading on the top floor.

General Alarm Sent In

The chief, realizing that the fire was gaining in headway, transmitted a general alarm, bringing out three additional engine companies and two truck companies.

The assignment of these companies upon their arrival was as follows: Engine Co. No. 7 at hydrant No. 5 and a single line laid by ladder to the second floor on the alley.

Engine Co. No. 8 at hydrant No. 9 and a single line stretched to the second floor from the Smith Street side.

Engine Co. No. 9 at hydrant No. 8 and a line stretched to the third floor on the Smith Street side.

Engine Co. No. 10 was placed at hydrant No. 11 (not shown on the diagram) and a line stretched up ladder to the third floor on the Paul Avenue side.

Engine Co. No. 11 was placed at hydrant No. 12 (not shown) and a line stretched to the fourth floor on the Paul Avenue side.

Engine Co. No. 12 was placed at hydrant No. 13 (not shown) and a line stretched to the fourth floor on the Smith Street side.

These lines continued to operate for a while until one of the captains on making an inspection of building B discovered fire beneath the floor on the third floor. He communicated this information to the chief and the line operating on the roof was withdrawn to take care of the fire burning beneath the floor.

Before any headway could be made in opening up the floor, plaster dropping from the ceiling above disclosed the fact that fire was also burning within the floor and the ceiling overhead.

From this point onward the progress of the fire was rapid, and is not clearly traced by the department. The sudden bursting out of fire in building B showed that it must have spread through the division wall at several points. Lines were quickly transferred from section A to section B but despite all efforts of the department the fire continued to gain in intensity.

Finally it was found that the fire in the building was beyond control and all efforts were then directed toward covering exposures.

This was done very well with a result that the fire was confined to the one block only. The building, including both sections A and B was completely destroyed, while none of the buildings, even across the alley, at the rear, suffered any appreciable damage.

A subsequent investigation showed that the floor beams of sections A and B were set in the dividing wall adjacent to each other as shown in the panel in the sketch herewith. Fire burning along one beam carried the fire into the wall and it was carried by the other beam through, or else the fire went through adjoining beams which might have been a short distance apart and passed from section A to section B.

The Editor's ideas on the handling of this fire will be given in the next issue of this journal.

Explains Poor Fire Streams to Public

In order to counteract the fallacy of the layman in laying the blame for poor fire streams on the shoulders of the water department, Superintendent D. W. French of the Hackensack, N. J., Water Company has made use of the newspaper columns to lay the details of the situation before the public in order to create a better feeling of cooperation. Many of the arguments as advanced by Mr. French are applicable to many municipalities, for the problems that are encountered in that section of New Jersey are not local but universal. The story as told to the public is as follows:

Fire losses in Northeastern New Jersey can be cut down by simple application of the facts which govern pressure, according to D. W. French, superintendent of the Hackensack Water Company.

Destruction of property through the ineffective use of long lines of fire hose should be avoided, declares Mr. French, who points out why water facilities sometimes fall short at fires occurring within the area embracing forty-five communities, served by the company in Bergen County and North Hudson.

Use of Pumping Engines

Employment of a pumping engine is one way of reducing fire damage, asserts Mr. French, warning that improper handling of hydrants is another source of avoidable fire waste.

"It is not uncommon for us to receive complaints about low water pressure when fires occur in outlying parts of our territory, where mains have not been laid or even applied for, and where the expense of a pumping engine is greater than the municipality can stand," says Mr. French, whose experience covers more than forty years.

"In such cases, direct pressure from the nearest fire hydrant, which is perhaps 800 or 1,000 feet away, is the only source of relief, and in practically all of such cases the building is lost.

"Well-informed fire chiefs and their men know enough about hydraulics to realize that long lines of hose with the accompanying friction spells defeat for the service, cuts the pressure down rapidly, and is the reason for the frequently used statement: 'We had no pressure.'

Failing of Laymen

"The layman who knows little concerning such matters is easily persuaded to criticize the Water Company for the loss of his property. It is for this reason that we wish to make it clear to water users that there is a loss of practically eleven pounds pressure for every 100 feet of the best brand of rubber-lined linen hose when using a one-inch nozzle.

"This loss is even greater when a nozzle of larger diameter is used. If, for example, the pressure at a hydrant is 100 pounds per square inch and 600 feet of hose is used, then the pressure at the nose nozzle will be reduced to 34 pounds, which is insufficient for good results by direct pressure.

"This condition is entirely overcome by the introduction of a pumping engine.

"There are other causes over which the company has no control, which result in partial failures of the service at fires. A few of these causes should be brought to public attention.

Fault at Hydrants

"In a number of fires which have occurred, and where the pressure was criticized, we had the good fortune to have a Water Company representative on the ground, and an examination of the hydrants revealed the fact that they were only partly open. Upon being fully opened, good service immediately followed. It takes from thirteen to sixteen turns of the hydrant key to fully open a hydrant, and this is often overlooked in the haste and excitement of the moment.

"Such handling of hydrants is admittedly not intentional, but is emphatically inexcusable and rings with inexperience. It is fair to assume that this opening was not made by an experienced or well-seasoned fireman.

"I am not exaggerating when I say that during a year there are a score or more hydrants rendered inoperative at fires by men trying to open them by turning in the wrong direction and breaking some of the interior working parts. This is also inexcusable, as every hydrant has an arrow cast on its top, showing the direction of movement to make an opening.

"At a fire which occurred recently two sections of fire hose burst, and while the fire was raging the water had to be shut off to replace these sections.

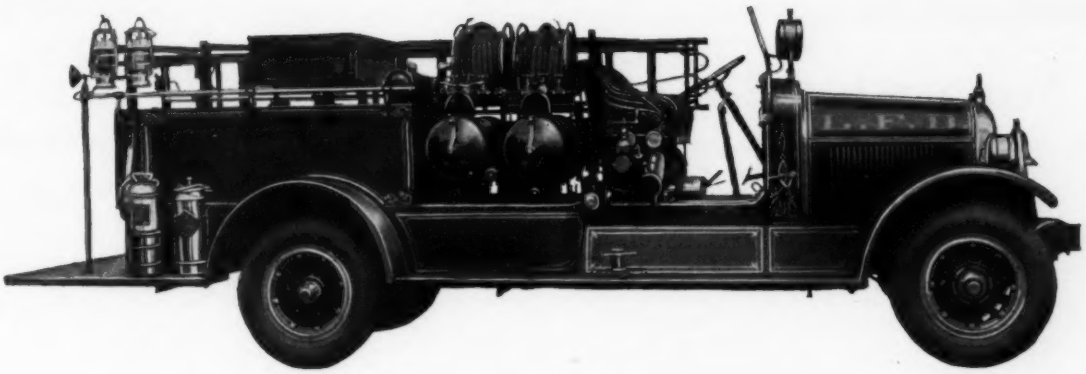
Defeats the Purpose

"Occasionally we have seen a long single line of hose led from a hydrant to a point near a burning building, and there divided into two lines with nozzles. This invariably defeats the purpose, which was to secure more water, because the long single hose line 'kills' the hydrant pressure. The proper procedure is to bring two lines from the hydrant to the building and, if a heavy stream is desired then to bring the two lines together into a single nozzle.

"The proper spacing of fire hydrants deserves careful consideration, and it is well to keep in mind that the Board of Fire Underwriters quote their lowest rates on fire insurance when hydrants are spaced not more than 500 feet apart."

To Protect Sunbury Odd Fellows' Orphanage

The city of Sunbury, Pa., has built a standpipe of large capacity and placed fire hydrants in close proximity to the Odd Fellows Orphanage. This institution has long been in need of safeguards against fire disaster, but for various reasons the matter has been held in abeyance. The standpipe is located on an eminence more than 100 feet above the institution, so that the water pressure will be sufficient for any emergency. A new fire company is being organized under the direction of W. W. Hopple, which will be composed of the teachers and boys of the orphanage. With 500 feet of 2½ inch fire hose they will be able to produce a powerful stream from the new fire plugs. Under the most adverse conditions the new company will be able to hold the flames in check until the Sunbury department reaches the scene. Mr. Hopple is being supported in his organization work by ex-Chief Weber and the directors of the orphanage.



You should know what 1927 can give you in a Fire Truck

A 1913 model pleasure car will not meet the driving needs of today—how can you expect a 1913 model fire truck to protect your city from fire losses. The pleasure car today without electric starter and lighting system is as far behind as the horse and buggy. Yet we see many such obsolete fire engines still occupying the engine houses of many cities.

Modern engineering ability has produced a motor, comparatively small in size, that will develop power equal to the mammoth engine of ten years ago. It has given us a much more economical engine from the standpoint of both gas and oil. It has given us double the speed and security.

Unless you have such fire fighting equipment, your city cannot be on a safe and economical protection basis.

No motorized equipment on the market can give you more of modern engineering, in Engine, Chassis and Fire Fighting Apparatus than the "DELUGE MASTER FIRE FIGHTER." It is of new and modern design throughout. Electric lights and starter; full Alemite oiling system on chassis, motor and pump; a powerful, dependable six cylinder motor, plenty of speed for every emergency; and most of all the DELUGE advanced Rotary Pump, developing up to 650 gallons per minutes.

DELUGE MASTER FIRE FIGHTERS are built in chemical and pumper combinations, completely equipped with all the modern conveniences for fire fighting. This equipment is also furnished in any combination on any make of standard truck chassis you may choose. Write for full details on the size you plan buying.

THE PROSPECT FIRE ENGINE CO., Prospect, Ohio

The "DELUGE" *Master Fire Fighter*

MASTER OF ALL IN ITS CLASS

Surprising to Them - - but not to Us!

Read This!—

Newfield, N. J.

We had a very severe windstorm here today and it blew over our tower on which was mounted our Sterling five-horse-power Double Head Siren. To our great surprise and satisfaction we found that aside from the damage to the sheet metal parts the siren was uninjured and still ready for service.

The drop of fifty feet which this siren had with the slight damage it sustained speaks volumes for the construction and materials used in Sterling Sirens.

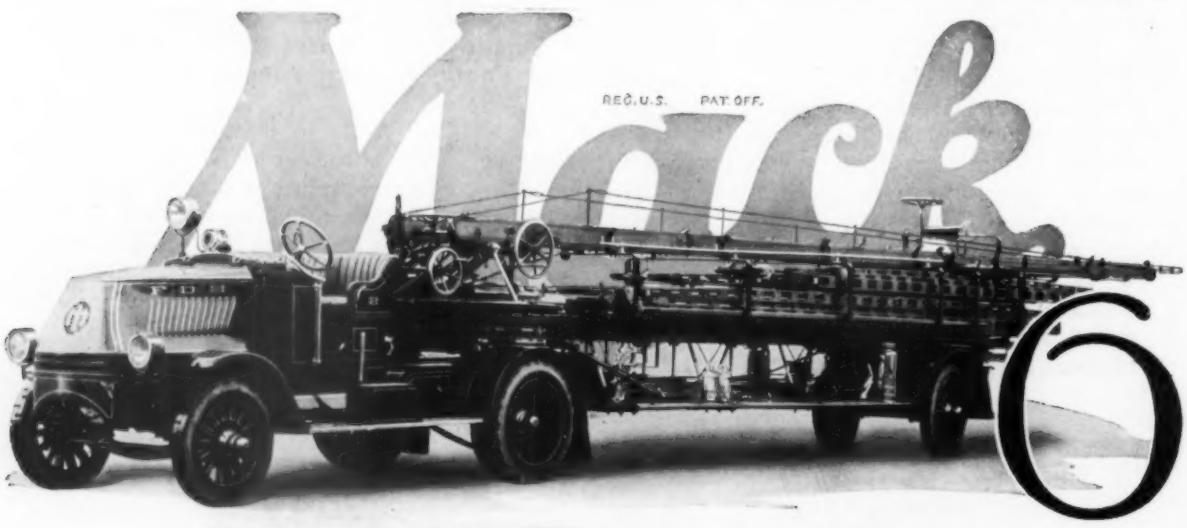
GEORGE AREGOOD
Electrical Contractor

It Takes More Than a Hurricane to Put a Sterling "Model M" Siren Out of Business!

The Sterling Electric fire siren Model "M" is the best of them all! Able to meet conditions like those mentioned—because it's made from the best materials, by the oldest and largest manufacturers of Siren Fire Alarm signals in the country.

For Twenty-five Years—Fire Signals Exclusively!

Sterling Siren Fire Alarm Company Inc.
61 Allen Street - - - Rochester, N. Y.



Progressive Fire Engineering

ROCHESTER, NEW YORK recently purchased this Mack six cylinder Four-Wheel-Tractor-Drawn 85 foot Aerial Truck which includes the very latest in spring actuated hoists. No air is employed in its operation and consequently it functions as well in zero weather as in mid-summer.

Note the simple, conveniently located control arrangements. One man on the operating platform can raise the ladder and place it in position without interference from conditions on the ground.

The full line of Mack Fire Apparatus includes motors of either 4 or 6 cylinders with pumping capacities ranging from 350 to 1000 gallons per minute. This means ample fire protection for the largest metropolitan centers as well as for smaller communities. Send for complete information, including the Mack 6.

MACK TRUCKS, Inc.
International Motor Company
25 Broadway New York City

One hundred and four direct Mack factory branches operate under the titles of: "Mack International Motor Truck Corporation", "Mack Motor Truck Company", or "Mack Trucks of Canada, Ltd."

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

MODERN METHODS OF FIRE EXTINGUISHMENT

By HARRY K. ROGERS

Engineer, Western Actuarial Bureau, Chicago, Ill.

IN this twenty-ninth installment of the University of Illinois Course in Fire Prevention, Mr. Rogers has given some constructive ideas on fire-fighting, extinguishment and protection:

It is not often that the average layman, the men in business, the citizen of your community, pays much attention to the fire department. It is very seldom that they think of you and if a thought does come it is a fleeting one, except in the time of necessity, when a man's house or his place of business is on fire, and then he gives a great deal of thought and attention to the fire department: but until that time comes you are not in his mind perhaps as much as you should be.

Fire-Fighting Now on Scientific Basis

He does not realize that your business has become very scientific, in a degree, I might say, almost as scientific as that of the physician or any of the other sciences. The old haphazard method of fire extinguishment is passé, they are not doing much of that any more. You are employing different methods than those used a few years ago. The best example of that, I might say, is the great improvements that have been made from a purely scientific standpoint in the matter of equipment. Fire apparatus today compared with that a few years ago is much finer, much more effective in its work. However, if mechanically perfect machines and faultless fire alarm systems were all that is necessary to constitute efficiency in a fire department, many cities would be perfect in this respect, but while these improvements, involving the expenditure of thousands of dollars, are very necessary, there is a third or human element which is the most important factor. The mechanical equipment can go only so far in the extinguishment of fires. The personnel of the department is a far more important factor. For that reason every man in the department must be well trained, active and capable of filling his position in such a manner that it will not be detrimental to the functioning of the department. For this reason the modern drill school or the fire college has been instituted in a great many of our fire departments.

I do not think it would be amiss to mention the four major parts. The first might be termed practical hydraulics, which has to do with fire, smoke, back pressure, etc. If a man is trained to know what the limits are and what is most effective in this important branch of fire service, his work as a matter of course is more effective than if he were going at it blindly.

Knowing the Chemistry of Fire

The second division I will term the chemistry of fire, which has to do with causes and effects. Those things are very necessary in fire prevention work,—inspections by uniformed members of the fire department,—for the reason if you will inspect a place of business where the stock in trade might be of a dangerous combustible nature, capable of starting fires by spontaneous combustion, it is well for you to have some knowledge of the chemistry of fire in order that these various commodities might be segregated or properly safeguarded. I do not mean you should have a degree in chemistry or a degree in hydraulic engineering. I do not mean that at all, but there are certain fundamental principles involved that every fireman to be efficient should become more or less familiar with in order that he can do the things so necessary in these inspections.

This chemistry of fire treats exhaustively on the subject of oxidation, slow burning. It is nothing more or less than a slow process of burning. If we had two blocks of wood as nearly identical as possible and we would place one in a furnace and burn it, we all know a certain amount of heat would be generated by the consumption of that block of wood. If the other block so nearly the same size as the first one was placed on the ground and exposed to the elements, it would in time disappear until nothing but a small residue or ash is left. Exactly the same amount of heat has been generated by the piece of wood laid on the ground as the one placed in the furnace, the only difference being in the point of time consumed in this operation. The chemistry of fire, as I have said, treats exhaustively of this process of oxidation—causes and effects. It is well to know things of that sort.

The chemistry of fire also applies to the subject of gas masks, proper masks to use under certain conditions. It treats proper types of chemical extinguishers to use under certain conditions, which is really a science in itself.

The Drill School of Evolution

Now, coming down to the third division of the modern fire college, we will call it the drill school of evolution, which has to do with the proper handling of all equipment. The statement was made that not many men could properly name every piece of equipment carried on the ordinary aerial truck and I believe that statement to be absolutely true. I doubt very much if there are more than a very small number of men who could go to a service truck or aerial truck and pick up every piece of equipment carried on that truck, give its proper name and tell how it could be used most effectively.

This training school, or school of evolution, has to do with that phase of the work, the proper handling of all apparatus and equipment, its use and why. A very effective thing. It standardizes the work of the men so that when two or more men are used in any single evolution every man knows exactly what is expected of him. He furthermore knows exactly what is expected of the other fellow. He knows exactly what the other fellow is going to do and by a coordination of effort you accomplish results with a minimum amount of energy expended.

(*To be continued*)

Fire Loss of Detroit a Half Million Less

(*Continued from page* 174)

and flues 135, from locomotives 26, spontaneous combusion 177, street cars 129, tramps and matches 65, thieves and matches 8.

During the year the Bureau made 54,749 inspections and details to premises as follows: Buildings inspected 40,781, reinspected 7,008, theatres at night 5.337, complaints from citizens 993, film exchanges inspected 456, night details to bazaars, churches, schools, etc. 174.

Building violations corrected 9,948, immediate corrections made in structures 6,173, extensions of time granted for compliance 24, defects referred to Building Department for investigation 1,880.

The Bureau issued orders for the procurement of 857 licenses from the Building Department—garages 82, steam pressing plants 166, steam boiler operators 167, inflammable liquids 221, torch welders and cutters 154 and paint and oil permits 67.

The total number of fires investigated was 1,429, of which the Arson Squad inquired into 569. Of this number 491 were found to be accidental and the balance of 78 of incendiary origin. The 78 incendiary fires embraced 25 classifications, in which dwellings led with 26 criminal fires, barns 13, dry goods shops 9, groceries 3, rooming houses 3, vacant buildings 3, garages 2, automobiles 2. All the others had one "crooked" fire each and some of these were a near-beer saloon, barber shop, orphanage, warehouse, brothel, hardware store, etc. Of the 78 incendiaries 36 motives were for revenge, 25 to defraud insurance companies, 15 by pyromaniacs and 2 to conceal thefts.

The losses incurred by the 78 incendiary fires amounted to $228,930.81, of which amount $155,607.66 represented those fires set to collect insurance which was far in excess of the true value of the property.

The arson report, signed by George W. Smith, detective, and William F. McDonald, special officer, discloses that, while there was a slight increase in the number of incendiary fires in 1926 as compared with 1925, the losses caused thereby were less. The arson detectives made 26 arrests under that provision of law, obtained five convictions, one of which was a commitment to an insane asylum.

Chilton, Wis., Department Re-organized—The fire department in Chilton, Wis., has been re-organized and Verne Hall is chief. The department was allowed to become inactive since 1922.

Bookings of "The Fire Brigade" Increase

(*Continued from page* 178)

CITY	THEATRE	DATE
Indiana		
Ft. Wayne	Allen	April 2-8
Marion	Indiana	Week in March
Terre Haute	Liberty	April 24-26
Kansas		
Topeka	Orpheum	March 14
Kentucky		
Louisville	Mary Anderson	May 1
Massachusetts		
Boston	State	Feb. 21
Holyoke	Strand	April 10-16
New Bedford	State	Feb. 12-18
Springfield	Broadway	March 27-April 2
Michigan		
Algonic	Classic	Feb. 23-24
Ann Arbor	Majestic	March 6-12
Battle Creek	Bijou	March 13-19
Battle Creek	Strand	May 24-26
Bay City	Orpheum	April 10-16
Coloma	Coloma	April 3-5
Detroit	Madison	Jan. 30
Edmore	Coliseum	July 3-4
Flint	Regent	March 13-19
Grand Rapids	Regent	Mar. 20-26 changed from Mar. 13-19
Hillsdale	Dawn	March 10-12
Ionia	Regent	March 10-12
Kalamazoo	Capitol	March 27-April 2
Lansing	Gladmere	April 17-23
Lowell	Strand	April 10-12
Muskegon	Regent	Mar. 6-12 changed from Feb. 13-19
Mt. Clemens	Macomb	March 21-24
Northville	P and A	April 2
Owosso	Capitol	March 14-16
Paw Paw	Paw Paw	August 19-20
Plymouth	P and A	April 3-4
Pontiac	Strand	Feb. 20-26 changed from Feb. 27-March 5
Port Huron	Desmond	April 10-16
Richmond	Majestic	March 27-28
Royal Oak	Baldwin	April 25-27
Saginaw	Franklin	April 10-16
Sturgis	Strand	March 31-April 1
Whitehall	Playhouse	May 21-22
Ypsilanti	Martha Washington	April 10-13
Minnesota		
Cokato	Cecile	Sept. 5-7
Ely	Opera House	April 6-9
Farmington	Star	June 26-28
Glenwood	Opera House	March 24-26
Granada	Blue Star	June 15-17
Hinckley	Liberty	May 23-25
Hutchinson	Rex	May 2-5
Le Seur Center	Lyric	May 8-10
Lindstrom	Princess	June 10-12
Luverne	Palace	May 9-11
Madison	Grand	Sept. 20-23
New Prague	Savoy	June 26-28
Shakopee	Gem	Apr. 25-27 changed from May 16-18
Sleepy Eye	Princess	May 14-16
South Hibbing	Garden	Feb. 27-March 3
Springfield	Grand	May 12-14
Watertown	Rex	June 15-17
Windom	Wonderland	June 6-8
Worthington	Grand	April 26-28
Missouri		
Crystal City	Crystal	April 3-4
Rolla	Rolla	March 23-24
St. Louis	State	March 5-11
St. Louis	Star	April 7-10
St. Louis	Venus	April 24-27
St. Louis	Marquette	April 3-4
St. Louis	Criterion	March 13-14
Montana		
Boseman	Rialto	June 1-3
Missoula	Wilma	Feb. 22-25
Nebraska		
Albion	Rex	May 25-27
Ashland	Isis	March 30-31
Lincoln	Lincoln	Feb. 7-12
Omaha	Alhambra	April 6-8
Omaha	Uptown	April 3-5
Omaha	Corby	April 3-5
Schuyler	Favorite	May 12-14
South Omaha	Roseland	April 3-5
Nevada		
Goldfield	Lyric	March 23-24
Tenopah	Butler	March 21-22
New Jersey		
Lakewood	Strand	March 2-3
New York		
Brockport	Strand	May 26-28
Buffalo	Varsity	April 3-5
Buffalo	Kensington	April 8-9
Dunkirk	Capitol	May 25-27
Elmira	Strand	March 6-12
Hornel	Majestic	March 6-10
Lackawanna	Ridge	March 20-23
Lancaster	Albert	March 21-23
Le Roy	Family	May 19-21
Orleans	Havens	Feb. 27-March 3
Rochester	Eastman	Feb. 27-March 5
Rochester	Regent	Feb. 27-March 5
Silver Creek	Geitner	May 18-20
Tonawanda	Star	March 20-23
Williamsville	Glen	April 1-2
North Carolina		
Wilmington	Royal	March 3-5
North Dakota		
Charlotte	Imperial	Feb. 28-March 5
Oakes	Grand	June 27-28
Rugby	Lyric	Sept. 2-3
Salisbury	Capitol	June 6-8
Ohio		
Athens	Majestic	March 2-3
Bellevue	Lion	June 5-8
Bellaire	Temple	June 13-15
Berea	Pastime	April 18-20
Cincinnati	Lyric	April 3
Conneaut	La Grande	May 10-12
Defiance	Valentine	March 7-10
East Liverpool	American	April 18-21
Elyria	Capitol	Feb. 23-24
Fremont	Jewel	March 13-17
Fostoria	Colonial	Feb. 23
Kenmore	Rialto	April 3-5
Lancaster	Hippodrome	Feb. 14-16
Lebanon	Opera House	Feb. 16-17
Lima	Sigma	April 24-28
Lorain	Ohio	Feb. 20-26
Medina	Princess	Feb. 20-23
Niles	Warner	April 10-12
Painesville	Utopia	Feb. 21-23
Ravena	Strand	Feb. 27-March 1
Tiffin	Capitol	Feb. 23-24
Toledo	Valentine	Feb. 26-March 4
Upper Sandusky	Star	June 20-22
Van Wert	Strand	May 16-18
Wadsworth	Strand	Feb. 22-24
Washington C. H.	Palace	March 7-10
Wooster	Wallace	March 31-April 2
Zanesville	Liberty	March 14-19
Oklahoma		
Bartlesville	Odeon	March 14-16
Cushing	Dunkin	Feb. 27-March 1
Lawton	Palace	Feb. 13-15
Norman	University	March 14-16
Okmulgee	Orpheum	Feb. 17-19
Shawnee	Cozy	Feb. 14-15
Tulsa	Strand	April 24-26
W. Tulsa	Cameo	April 30-May 2
Oregon		
Klamath Falls	Orpheum	March 20-23
Pennsylvania		
Gettysburg	Strand	March 2-5
Lebanon	Jackson	Week of March 7
Uniontown	State	March 16-19
York	Strand	Week of May 23
South Dakota		
Bretlon	Strand	May 11-12
Redfield	Lyric	April 4-5
Vermillion	City	March 24-26
Watertown	Colonial	March 12-14
Tennessee		
Memphis	Loew's State	March 28-April 2
Nashville	Loew's Vendome	March 14
Texas		
Dallas	Palace	March 5-11
Houston	Queen	Feb. 19-25
Virginia		
Danville	Broadway	Feb. 28-March 1
Norfolk	Broadway	Feb. 28-March 1
Richmond	Capitol	March 7-12

B & M SIREN

Did You Hear Our Sirens While You Were in New Orleans?

You could not have helped hearing them. Fire Chief Evans' car had one on, the Ahrens-Fox Aerial Ladder had one on their exhibit car and have made the B & M Siren standard equipment on their apparatus. The American-LaFrance Fire Engine Company had a B & M on their exhibit car; our own demonstrator was there, and I know that you heard the Sirens in the parade. We blew them steadily for one and a half hours without any intermission. The B & M is the only siren today that you can blow for that length of time. Why? Because it is mechanically driven.

Write for complete information. We gladly send B & M Sirens to any city on approval, transportation prepaid.

B & M Siren Manufacturing Co.

Lester H. Miles, Owner

931 So. Main St. Los Angeles, Calif.

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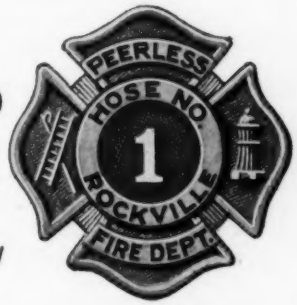
of Every Description

QUALITY GUARANTEED

Right Prices

Prompt Delivery



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"ROSS" HELMET

OUR LATEST CATALOGUE AND PRICE LIST WILL GLADLY BE SENT ON REQUEST.

EVERSON-ROSS CO.

88 Chambers St., New York

MATHEWS

(Reg. U. S. Pat. Off.)

FIRE HYDRANTS

for

DOMESTIC

and

HIGH PRESSURE

Service

Note—

The positive waste valve.

All operating threads are above the stuffing box.

No toggles, small screws or other small, quick-wearing parts.

All moving parts are bronze or bronze bushed.

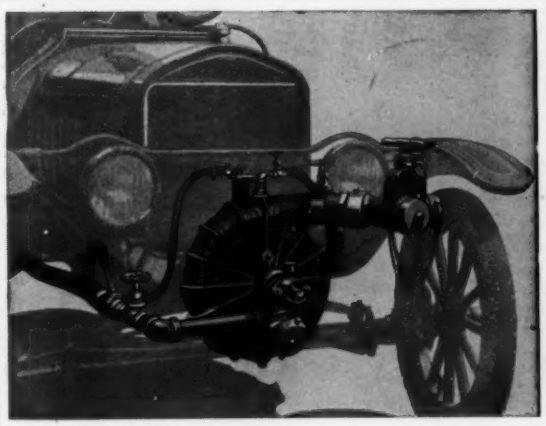
The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

Valves and Boxes

Cast Iron Pipe and Fittings

R. D. WOOD & CO.

Phila., Pa.



FIRE PROTECTION

At Low Cost

Here's the evidence—

VERMONTVILLE, Mich.

"Gentlemen:

We are writing to inform you we are very much pleased with our Barton Fire Pump mounted on Reo Fire Truck which was purchased from you a few weeks ago. We have attended four fires and paid for the apparatus more than three times over at our first fire.

Very truly yours,
VANCE F. BARBER,
Fire Chief."

Write for complete details.

AMERICAN STEAM PUMP CO.
Battle Creek, Michigan

Successful Since Sixty-Eight

Worcester
Fire Alarm Signals

Nothing is more important in fire service than the alarm. Protect yourself by taking advantage of the experience of the oldest fire alarm manufacturing specialists.

The Worcester Fire Alarm Signal is made to meet your requirements, either steam or air operated. Write for catalog R-51.

Union Water Meter Co.
WORCESTER, MASS.
New York Office: 50 Church St.
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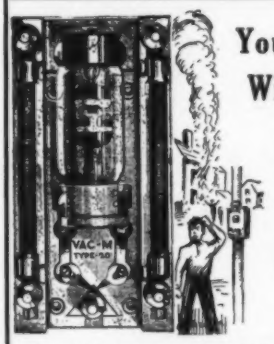


You Can't Take Chances With Your Fire Alarm!

Your system must be never-failing in its operation at al times. The safety of your city depends upon it. Your alarm system is the most important part of your departmental equipment.

Its delicate instruments should therefore always be protected against lightning and short circuits with VAC-M Arresters. Are yours?

Full Details on Request

THE NATIONAL ELECTRIC SPECIALTY COMPANY
TOLEDO .... OHIO.

S & M Special Lighting Equipment For Fire Apparatus

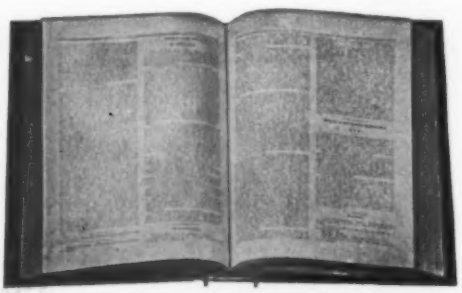
Model No. 15
Drum Type Search-Lite.
Powerful Handsome—
Reflector 10" dia.
Light projection 5000 feet.

Search-Lites
Spot-Lites
Red Safety-Lites
Pick-up-Lites

S & M Lites are nationally known on account of their high quality and their scientifically made reflectors.

The S & M Red Safety-Lite (originated by the S & M Lamp Co.) is rapidly coming into general use on Fire Apparatus. The intense flare of red light can be seen for several blocks and gives warning of approach of Fire Apparatus. Write for descriptive catalog.

S & M LAMP CO., (Inc.), 118 West 36th St., Los Angeles, Cal.



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Address:
Book Department, Fire Engineering
225 W. 34th St., N. Y. C.

Name .....
Position .....
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BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
230 West Randolph, St., Chicago, Ill.

The City of Wheeling just purchased 5,000 feet of Bi-Lateral Fire Hose coupled with rocker lug couplings. This city purchased 5,000 feet last year and it is believed that as soon as their department is equipped with this improved construction in fire hose they will be able to cut their hose expense to less than half of what it has been previously. Let the BI-LATERAL FIRE HOSE COMPANY tell you why this may be true.

JOHN H. CLAY, INC.

1320 Ridge Ave., Philadelphia, Pa.
Established 1864

Clay Automatic Door Spring Devices for fire stations save valuable minutes in getting to fires. Write for details.

City	Theatre	Date
West Virginia		
Fairmont	Virginia	March 16-18
Hinton	Masonic	March 21
Wisconsin		
Fond du Lac	Retlaw	March 22-24
Hancock	Kerredge	May 9-11
Kenosha	Orpheum	April 25-28
Sault Ste. Marie	Strand	March 8-10
Sheboygan	Rex	April 25-29
Watertown	Classic	March 14-16
Waukesha	Panx	March 15-17
Wausau	Stuart	May 10-12
Wisconsin Rapids	Palace	April 5-7

Battalion Chief Examination—Q. & A.

(*Continued from page* 180)

4½ Inch Hose: This hose is used only for water towers and similar purposes. Due to its excessive weight and rigidity when charged it is never used for ordinary fire department purposes. It is a hose with a special use and is satisfactory only for that particular use.

In view of the fact that the question was not answered in the manner required in the statement of the question, a credit of seven is given for this question.

Comment Answer 7

Not being familiar with the water system of your city it is hard to offer any criticism as to the recommendation you make.

Possibly the recommendation that more hydrants should be installed, to cover all districts and particularly the high value district, as well as the elimination of all four inch mains for fire fighting purposes would probably be acceptable.

The installation of a high pressure system would be a tremendously important move to improve the fire protection of the city.

In view of the fact that full data is not on hand regarding your present water system, and its effectiveness, it is not possible to criticize, as noted above, the answer. Therefore in view of this lack of information full credit is allowed on the question.

Comment Answer 10

In your answer you have overlooked what is probably the most important point in connection with the method of operating these officers' schools. Officers go to the school and receive their instruction and are required to pass the information on to the men under them. Due to the length of time it requires to instruct the men it would be impossible to have the entire department report for instruction. The only alternative is to have the officers come to the school and secure the information and then pass it on to the men under them. This passing the information on places the fire officer in a very much higher position in the estimation of his men. The officer who can instruct his men and who will take the trouble to instruct is much more apt to be looked up to than the officer who fails to show what he does, or does not know. This point is probably the chief advantage of the officers' school.

The other points you have mentioned are very essential but this point is one which you apparently overlooked.

The education of the officer himself is, of course, very necessary and linked up with the men under him, the school is able to exert its full influence.

In view of this omission a credit of seven is allowed on this answer.

Newly Elected Chiefs and Other Officers

The following list compiled from press reports contains the names of newly elected chiefs and officers as well as those re-elected:

HUMPHREY, NEB.—J. N. Smith.
WINTHROP, MINN.—E. W. Schmalz.
ATWATER, MINN.—Simon Solomonson.
EXIRA, IA.—Geo. Voss.
DELL RAPIDS, S. D.—Henry Meyers.
KENNEDY, MINN.—Peter Gravgaard.
DENTON, MONT.—Lewis Benton.
OAKFIELD, WIS.—W. Launders.
LINDENWOLD, N. J.—Edw. H. Rahme.
McQUEEN, MONT.—Albert Fortinia.
COLTON, N. Y.—Wm. Clark.
TIPTON, IA.—Roy Cook, pres.; E. E. Tracht.
FINLEY, N. D.—R. P. Archer
MOHALL, N. D.—Ed. Page.
SISSETON, S. D.—A. Horr.
JOHNSON, NEB.—R. J. Williams, pres.; H. L. Casper.
VELVA, N. D.—Floyd Hubbard.
VOLIN, IA.—Ole O. Vognild.
PARNASSUS, PA.—Frank Glass.
LAWRENCEVILLE, N. J.—Oscar L. Eggert, chief.
HIGHLAND MILLS, N. Y.—R. L. Cromwell.
BRADFORD, ILL.—F. W. Toomey.
McMINNVILLE, ORE.—Ivan Pearson (re-elected).
BROOKFIELD, N. Y.—B. E. Bacon.

New Rules of the New York Fire Department

(*Continued from page* 175)

On fireboats, the pilots and engineers shall also be exempt from house watch duty.

SEC. 225. The tours of duty for house watchmen shall be divided into periods of three hours each, from 9 a. m., except from June 1st to September 1st there shall be one tour of four hours from 8 a. m. to 12 noon and one tour of two hours from 6 a. m. to 8 a. m.

Each tour shall be performed by one member, with the exception of the tours from 12 midnight to 6 a. m., which shall be performed by two members to be designated as house watchman and assistant, respectively.

Details to such duty shall be equalized and a schedule posted on the bulletin board.

(*To be continued*)

Neumoegen Made Honorary Chief

Manfred L. Neumoegen, a New York broker and member of the stock exchange, has been appointed an honorary deputy chief in the New York Fire Department by Fire Commissioner John J. Dorman. The appointment was made on the recommendation of Chief John Kenlon. It was promulgated in the official orders of the day and Chief Kenlon made Chief Neumoegen a member of his staff of aides.

Honorary Deputy Chief Manfred L. Neumoegen

Besides being an Honorary Deputy chief, Mr. Neumoegen is a member of the Board of Fire Commissioners of Mahopac, Putnam County, N. Y., a small town not far away from New York City, where he has an estate on which he maintains a summer home. Although little heard of, as far as the public is concerned, Chief Neumoegen has nevertheless been a constant and conscientious fire fan in New York for many years. He has been doing welfare work among firemen in an unostentatious way. For years he has been responding to fires with Dr. Archer and Chief R. H. Mainzer on the Fire Department ambulance which is quartered near his home. He has a fire telegraph connection in his hotel suite and responds to every serious fire in the city.

W. J. DALY.

Turlock, Cal., Plans for Firemen's Ball—Plans are being made by Turlock, Cal., for the annual ball of the department which will be held on March 17.

Omaha May Centralize Apparatus—One of the aldermen of Omaha, Neb., presented a plan for abandoning all of the present fire stations and centralizing the equipment in one building. Many of the present stations, it was stated, are very old, and the repair cost is considerable.

Libby, Mont., to Abolish Canvassing for Funds—In the past, the fire department in Libby, Mont., was supported by funds acquired through personal solicitation. In the future, the money for the support of the fire department will come from a tax levy on the property within the city.

"Disabled Fund" Started in Audabon, Ia.—Funds are being raised in Audabon, Ia., for the creation of a fund to be used for disabled firemen. All the firemen are covered by insurance, but in case of long or severe illness, the firemen would have inadequate compensation, it was stated, unless there was a fund for this work.

PROPOSED IMPROVEMENTS

Wilmington, New Hanover Co., N. Car.—City recently authorized the purchase of an American-La France pumper for the fire department here.

Springfield, Lane Co., Ore.—Volunteer Fire Department being organized here with J. Smithson as chief.

Leechburg, Armstrong Co., Penn.—It is being urged that additional apparatus be purchased for the fire department.

Farmville, Prince Edward Co., Va.—Considering the purchase of a fire truck for this town.

Adelphia, Monmouth Co., N. J.—Plans are being made by the village for the organization of a new fire company and the purchase of new equipment.

Elizabeth, Union Co., N. J.—Grenville A. Harris, Fire Commissioner, has started a movement for the purchasing of a new fire truck for the fire department.

York, Livingston Co., N. Y.—Funds have been raised for the purchase of a new fire engine for the village.

Westerville, Franklin Co., Ohio.—City contemplating the purchase of a new motorized fire apparatus according to Chas. R. Bennett, member of City Council.

Ashland, Schuylkill Co., Penn.—The American Hose Company is considering plans for the purchase of an additional fire truck. Councilman Charles H. Goyne, interested.

Dover-Foxcroft, Piscataquis Co., Maine.—Dover Foxcroft Water District is making plans to erect a new fire station on Union Square. Harvey R. Williams, Supervisor of the District.

Camden, Camden Co., N. J.—The Highland Volunteer Fire Company, Woodland Ave. and Marlton Pike, Ponsauken Township, is planning to purchase a pumper with a capacity of 750 gals. per minute. Funds are being raised.

Fresno, Fresno Co., Calif.—City Commission considering submitting a bond issue at the April election for the purchase of fire apparatus and equipment.

El Cerrito, Contra Costa Co., Calif.—Fire and Police Commissioner recommended to the Council that fire alarm boxes be installed.

Turlock, Stanislaus Co., Calif.—Chief of Fire Dept. has asked City Council to consider the purchase of a new fire truck.

Danville, Boyle Co., Ky.—Danville City Council passed resolutions empowering the Fire Committee to purchase a ladder truck at an early date.

Norfolk, Madison Co., Nebr.—Considering the placing of fire sirens at principle street intersections in the business district.

Pemberton, Burlington Co., N. J.—Fire Company is planning to purchase a site for a new fire house on Main Street.

Fort Monmouth, Monmouth Co., N. J.—New fire apparatus to be purchased for fire department here.

Perkasie, Bucks Co., Penn.—Wm. O. Texter, Chief, writes that the Borough Council voted on Feb. 7 to appropriate $5,200 to Perkasie Fire Co. No. 1 towards the purchase of an additional pumper.

Chilton, Calumet Co., Wis.—Chilton Fire Department to recommend the purchase of a pumper to the City Council.

Brillion, Calumet Co., Wis.—Considering calling an election some time this spring to vote on a bond issue for the motorization of the fire department.

Edgerton (Mail Midwest) Natrona Co., Wyo.—City Council and Commercial Club to organize a fire department for this city.

South San Francisco, San Mateo Co., Calif.—At meeting of the Board of Trustees it was decided to purchase a new fire engine shortly.

Davis, Stephenson Co., Ill.—At recent election city voted in favor of a $5,000 bond issue for the purchase of fire apparatus.

Elkhorn, Walworth Co., Wis.—Agitating for the purchase of a new truck and other equipment for the fire department.

Merrill, Lincoln Co., Wis.—City Council voted to purchase a 500 gal. pumper equipped with a 40 gal. chemical tank.

Proposals for Fire Apparatus

KEARNY, N. J.

Bids opened February 23, 1927.

Sealed proposals will be received by the Town Council of the Town of Kearny, N. J., at the Town Hall, on Wednesday evening, February 23, 1927 for a Motorized Triple Combination Pumping Engine, One Thousand Gallons capacity, for the use of the Fire Department of the Town of Kearny, N. J.

Proposals must be in the hands of the Town Clerk at or before 8 o'clock, P. M. Wednesday, February 23, 1927, and must be endorsed "Proposals for Motorized Triple Combination Pumping Engine." Specifications and every information must be submitted with bid. All proposals must be accompanied by a certified check or cash to the amount of five (5%) percent of the proposal. The Town Council reserves the right to reject any and all bids, as it may deem for the best interests of the town.

WILLIAM B. ROSS,
Town Clerk.

Dated Kearny, N. J.
February 9, 1927.
2-23

When In the Markct

for equipment or supplies make your wants known through FIRE ENGINEERING. More bidders mean more competition and better satisfaction.

Salesmen Wanted

An old established concern is going to increase their sales force and has some very attractive openings for salesmen. In sending in your application give details regarding experience. Apply Box 132, % FIRE ENGINEERING, 225 W. 34th St., New York City.
2-23.

Fire Apparatus Salesman

Experienced fire apparatus salesman available. An opportunity for a progressive manufacturer to secure a hustler. Apply Box 135, % FIRE ENGINEERING, 225 W. 34th St., New York City.
2-23

CONVENTION DATES

May or June—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 22nd Annual Convention, Darlington, S. C., date at pleasure of Convention City. Secretary, R. S. Hood, Sumter, S. C.

May 3-4—SOUTH DAKOTA ASSOCIATION OF FIRE CHIEFS. Annual Convention, Brookings, S. Dak. Secretary, Chief C. M. Johnson, Rapid City, S. Dak.

May 9-12—NATIONAL FIRE PROTECTION ASSOCIATION. 31st Annual Meeting, Chicago, Ill. Secretary, Franklin H. Wentworth, 40 Central St., Boston (9) Mass.

June 8—NORTHWEST ARKANSAS FIREMEN'S ASSOCIATION. Annual Convention, Springdale, Ark. Secretary-Treas., F. M. Brock, Bentonville, Ark.

June 14-16—TEXAS STATE FIREMEN'S ASSOCIATION. Annual Convention, San Antonio, Tex. Secretary, Olin Culbertson, Hillsboro, Tex.

June 21-23—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 38th Annual Convention, Poughkeepsie, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie.

June 21-23—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention, Congress Hotel, Portland, Me., Secretary, Chief John W. O'Hearn, Watertown, Mass. For reservations address Geo. F. Cobb, Traffic Manager, 774 Albany Street, Boston, Mass.

July 12-14—MICHIGAN STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Lansing, Mich. Secretary, H. L. Williams, Luddington, Mich.

July 25-28—DOMINION ASSOCIATION OF FIRE CHIEFS. 19th Annual Convention, Hull, Quebec. Secretary, Chief James Armstrong, Kingston, Ont.

August—IDAHO STATE FIREMEN'S ASSOCIATION. Annual Convention, Wallace, Idaho, tentative date, last week of August, to be decided later. Secretary, Willard Adams, Rigby, Idaho.

Aug. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 55th Annual Convention, Portland, Ore. Secretary, Chief J. J. Mulcahey, Yonkers, N. Y.; Executive Sec., State Fire Marshal Jay W. Stevens, Merchants' Exchange Bldg., San Francisco, Cal.; Chairman, Exhibit Committee, Chief Albert Herring, Murphysboro, Ill.

Aug. 14-16—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual convention, Elmira, N. Y. Frank A. Emden, secretary-treasurer, 1200 Lenox Ave., Utica, N. Y.

Aug. 16-19—FIREMEN'S ASSOCIATION, STATE OF NEW YORK, and WESTERN NEW YORK VOL. FIREMEN'S ASSOCIATION. Joint convention of both associations, Niagara Falls, N. Y. Secretary, State Association, Fred A. Davis, Fort Edward, N. Y.; Secretary, Western N. Y. Association, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

Aug. 24-26—VIRGINIA STATE FIREMEN'S ASSOCIATION. 41st Annual Convention and tournament, Alexandria, Va. Secretary E. K. Landis, Pulaski, Va.

Sept. 7-8—MISSOURI STATE FIRE CHIEFS' ASSOCIATION. 5th Annual Convention, Kirksville, Mo. Secretary, District Chief J. T. Lynch, Kansas City, Mo.

Sept. 7-8—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 2d Annual Convention, Kirksville, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Sept. 12-14—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Russellville, Ark. Secretary, H. D. Compton, Little Rock, Ark.

Sept. 13-15—ILLINOIS FIREMEN'S ASSOCIATION. 40th Annual Convention, Jacksonville, Ill. Secretary, Roy A. Alsip, Champaign, Ill.

Sept. 22-24—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, and Anniversary, Atlantic City, N. J. Secretary, William Exall, Chamber of Commerce Bldg., Newark, N. J.

Sept. 23—NEW JERSEY STATE FIRE CHIEFS' ASSOCIATION. Annual Meeting, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South St., Morristown, N. J.

Oct. 4-6—PENNSYLVANIA STATE FIREMEN'S ASSOCIATION. Annual Convention, Shamokin, Pa. Secretary, Charles F. Clark, 411 Bellevue Ave., Wayne, Pa.

Oct. 17-19—KANSAS STATE FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. 11th and 40th Annual Conventions, Kansas City, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Plan to Abolish "Still Alarms"

The end of the famous still alarm of fire is in sight. Some of the still alarms are given by persons running to the nearest fire stations and informing the man on patrol of the location of a fire. That idea is a good one. But the bulk of the "still alarms" are given by persons discovering a blaze and telephoning its location to Fire Headquarters. Many of the telephone calls have led to confusion, owing to the number of streets similar in name.

Commissioner Hultman of Boston, Mass., has inaugurated a new system that will tend to avoid such mistakes. He has instructed the operators at fire alarm to send the nearest apparatus upon receiving a telephone notification of a fire; but the operator must also tell the person sending the alarm to pull the nearest fire alarm box. This is a sure method of elimination of errors made in sending still alarms over the telephone.

Geneseo, Ill., Apparatus Not to Leave City—The council of Geneseo, Ill., have decided that the fire apparatus will not leave the corporate limits.

Perfect in every detail
is the verdict of those using the

DONTFEAR

Smoke and Fume Respirator

The canister contains a very special filtering medium which stood severe tests of the Bureau of Mines; the absorbent medium is composed of materials which were used in the smoke masks of the U. S. Government during the war, and these are so arranged as to give their combined effectiveness. Users of "DONTFEAR" Respirator get the best protection possible against smoke and smoke gases.

Send for Descriptive Catalogue

Price $5. With Airtight Goggles and 5 Extra Canisters $7.50

Gibbs-Wahlert Mask Co.

388 Jay St., Opp. Fire H'q'trs Brooklyn, N. Y.

EDDY

Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

EDDY VALVE CO.

Waterford, N. Y.

James B. Clow & Sons, Chicago Agents

HALE PUMPS

LONGER effective life, higher efficiency and greater freedom from trouble may be had by using Hale Dreadnaught Fire Pumps.

HALE FIRE PUMP CO.

Conshohocken, Pa.

HAHN

Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

Hahn Motor Truck Co.,

Hamburg, Pa.

There's No Siren Like the

SIRACODE

Whatever your Siren requirements, you'll find Siracode away ahead of anything on the market today.

Write for literature.

SIRACODE SIGNAL CORP.

Formerly Heath Engineering Laboratories

354 Pine St., San Francisco, Cal.

"Pirsch" Builds Complete Line of Motor Apparatus

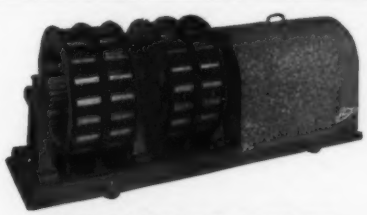
Let Us Submit Bids on Your New Apparatus

Catalogue No. 16 Now Ready! Send for it.

PETER PIRSCH & SONS CO.

Since 1857

Kenosha, Wisc.



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Now used in 43 of the United States, Canada and abroad.

Motor driven on any electric circuit.

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Hendrie & Bolthoff Mfg. and Supply Co.

Denver — Colorado

THE INTERNATIONAL LINE includes a Speed Truck for 2000-pound loads and Heavy-Duty Trucks ranging from 3000 to 10,000 pounds, maximum capacities. Municipal equipment available for every purpose. 111 direct Company branches in the United States.

INTERNATIONAL HARVESTER COMPANY

606 S. Michigan Ave of America (Incorporated) Chicago, Ill.

INTERNATIONAL HARVESTER COMPANY TRUCKS

FIRE DEPARTMENT ACTIVITIES

Kearny, N. J., to Purchase Pumper—Kearny, N. J., voted to purchase a pumper costing $14,000.

Avis, Pa., to Purchase Pumper—Avis, Pa., voted to purchase a pumper.

Detroit Opens New Fire Station—The new station for Ladder Company 3 has been officially opened in Detroit, Mich.

Platteville, Wis., Installs Siren—A siren has been installed in Platteville, Wis.

Franklin Park, Ill., Receives New Pumper—A new 750-gallon Pirsch pumper has been delivered to Franklin Park, Ill.

Inglenook, Ala., Purchases Pumper—A 750-gallon pumper was purchased by Inglenook, Ala.

Arlington, Va., to Have Fire Marshal—In accordance with the request of the Arlington-Fairfax Firemen's Association, a fire marshal has been appointed for Arlington, Va.

Baltimore May Have Ambulance Service—A proposal has been made in Baltimore, Md., for the establishment of a general ambulance service to be operated by the fire department.

Pay Increase Asked at Quincy, Mass.—The Permanent Firemen's Association of Quincy, Mass., has petitioned the city council for pay increases for the officers and privates.

New Fire Station Opened in Georgetown, Del.—The new fire station in Georgetown, Del., was officially opened with a turkey supper.

Sheridan, Wyo., Firemen Want Pay Increase—A petition was presented by some of the firemen of Sheridan, Wyo., asking for a pay increase.

Carlstadt, N. J., Purchases City Service Truck—Contract has been closed by the Woodhouse Mfg. Co., with Carlstadt, N. J., for a Maxim city service truck.

Three Seek Position as Chief in Reading, Pa.—Three candidates are seeking election as chief of Reading, Pa., including John G. Niethammer, chief for many years.

Salem, Ohio, Tests Fire Alarm—Chief Vincent Malloy of Salem, Ohio, is making a complete test of the fire alarm system to make sure that it will function properly.

New Egypt, N. J., Purchases Pumper—A 500-gallon pumper with chemical tanks has been purchased by New Egypt, N. J.

Monroe, Mich., Adopts Platoon System—The fire department of Monroe, Mich., will now operate on the platoon system. The force will consist of twelve paid men.

Losses in Sacremento, Cal., Reduced—The fire losses in Sacremento, Cal., have been reduced $20,000 from those of the the year previous.

Ten New Captains Appointed in Jersey City—Ten new fire captains have been named in Jersey City, N. J., and thirteen new firemen have been appointed.

Ex-Chief McNarrey Leaves Stutz Sales Force—After March 1, John McNarrey, former fire chief of Kansas City, Kans., will no longer be connected with the Stutz Fire Engine Company. He will embark on a business venture of his own.

Spokane, Wash., Petitions for the Double Platoon—Firemen in Spokane, Wash., have collected more than 10,000 names to a petition that the city vote on the installation of the double platoon system.

Pennsylvania Firemen Want 2% Tax—The Chester, Pa., Firemen's Association went on record as being opposed to the plan of removing the two per cent tax on foreign insurance companies doing business in Pennsylvania.

Hamilton, Ohio, Chief Resigns—Chief Flanagan of Hamilton, Ohio, has tendered his resignation. A committee of firemen have asked the city to approve an increase in their pay, and the city council promised to consider the matter.

New Station at Albany, N. Y., Completed—The new fire station erected in Albany, N. Y., has just been completed to protect the New Scotland section of the city. Twelve men and a 600-gallon pumper have been assigned to the new building.

Firemen Hosts to St. James, Minn., Men—More than 150 business and professional men of St. James, Minn., were the guests of the firemen at a dinner which was prepared by the wives of the fire-fighters.

Edgemere, N. Y., to Erect Fire Station—Construction will start early next month on the new fire station for Edgemere, L. I., N. Y. the funds were approved by the Board of Estimate (New York City) a short time ago.

North Dakota Passes Fund for Tournament—In recognition of the long accepted custom of holding fire department tournaments, the North Dakota legislature is considering a bill appropriating a fund of $2,000 for holding an annual tournament.

Pontiac, Mich., Opens Third Fire Station—Station No. 3 was formally opened in Pontiac, Mich. The new building, erected at a cost of $50,000, will house two pumpers and a service truck. Chief Frank W. Kuhn has assigned the men and officers who will man the new station.

Springfield, Ill., Opens New Fire Station—Two fire companies in Springfield, Ill., moved into the new fire station which was recently completed. In connection with the new station, a four-story drill tower was erected for the training of the men in the department.

Stubenville, O., Fights for Wage Increase—Twenty-eight firemen in Steubenville, Ohio, commenced suit to compel the city to pay them the twenty per cent wage increase that they say was voted on and passed at the November election. At that time, the increase was approved by a three-to-one vote.

Cow Spreads Fire in Geneva, N. Y.—A cow on a farm in Geneva, N. Y., hooked his horn through a hand lantern and dashed madly through the barn. The cow set fire to the barn, a pile of straw nearby, a silo, a garage and some farm machinery.

Minnesota to Revise Pension Rules—A bill has been introduced in the Minnesota legislature to revise the pension rules in first class cities. The new system, it was stated, would tend to stabilize the pension fund, and men who retired from the service would all receive the same amount instead of the graduated scale as at present.

Urge End of Loop Parking in Chicago—Both the heads of fire and police departments in Chicago, Ill., appeared before Mayor Dever's traffic committee to urge the discontinuance of parking in the loop section of the city. A "no-parking" law, it was stated, would reduce the time required for a car to pass the loop and it would be of great benefit to the fire department.

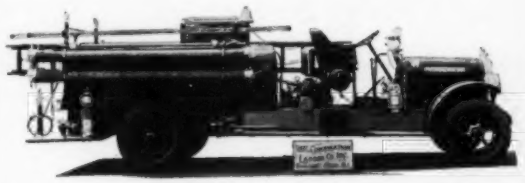
Milwaukee, Wis., to be Motorized—Early this month, it is expected that the last horse in the fire department of Milwaukee, Wis., will be replaced by a motorized fire apparatus. During the two years of Chief Steinkellner's administration, nine pieces of fire apparatus have been added, five of which were built in the fire department shops. In addition, eighty men have been added to the force.

Two Companies Abolished for Not Responding—The Midland Township of New Jersey terminated a contract with two volunteer fire companies that protect the district because, it was stated, the two companies did not respond to a fir in which one man was killed. Members of the chemical company stated that they could not respond because there was no gasoline in the tank, while the ladder truck could not be used because it had two flat tires.

Minneapolis Wants New Fire Station in Loop—Chief C. W. Ringer of Minneapolis, Minn., for the second time, has asked the city council to vote on a $185,000 bond issue to permit the construction of a three-story fire station in the loop section of the city. The matter is now before the Board of Estimate for consideration. Should the building be erected, the fire companies using the four stations in the loop district will be quartered in the new building.

Chief Kellogg of Sioux City Out of Hospital—Chief George M. Kellogg, chief in Sioux City, Utah, left the hospital where he was interned for two months and is now at his home. Chief Kellogg, who has been chief for thirty-seven years, was stricken with appendicitis while at his desk. At first he was taken to his home but later as his condition became worse he was removed to a local hospital where he was operated on. Chief Kellogg is now sixty-six years old.

Fire Alarm Planned for Sioux City, Ia.—Plans are being made for the installation of a fire alarm system in Sioux City, Ia. In the business section of the city, the wires will be placed underground, and they will be carried overhead in the outlying sections. The headquarters, it is planned, will be located in the municipal building. Plans call for the erection of fifty-two fire alarm boxes and for the floating of a bond issue to finance the work.



Triple Combinations

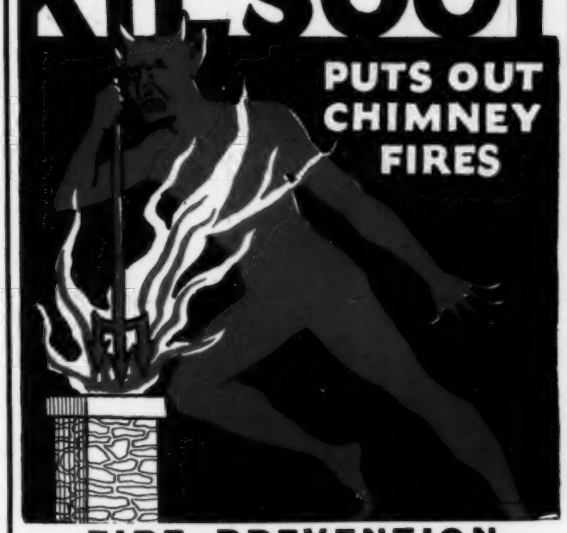
Continental Six cylinder motor, 100 gallon Booster Tank, 500 gallon Pump, 1200 ft. Hose Body, complete Miscellaneous equipment. Motor recently passed twelve hour Endurance test conducted by National Board of Underwriters. Built and equipped for service.

We offer 300, 350 and 500 gallon pumping units.

Write us when interested.

Combination Ladder Co., Inc.

381 Fountain Street Providence, R. I.



FIRE PREVENTION

A better, safer and surer way to prevent and extinguish chimney fires is offered to fire chiefs and fire prevention bureaus in the use of "Kilsoot."

We repeat our offer to send liberal samples and full details regarding this remarkable chemical product—gladly furnished upon request.

KILSOOT CHEMICAL COMPANY, INC.
530 West 58th St., New York
Also makers of "Chimnee-Sweep"

Shuredry **Salvage Covers**

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta, New Orleans, Brooklyn, St. Louis, Dallas, Minneapolis

BRAXMAR

BADGES

have been the recognized standard for fire departments for almost 50 years. Used everywhere. More than 900 designs. Send for illustrated catalog and prices.

C. G. BRAXMAR CO.
242 W 55th St., N. Y. C.

FALSE ALARMS

SOUNDS ODD

The Chamber of Commerce of one town was holding a booster dinner and various city officials were invited to attend and to deliver short talks after the dinner. The chief was asked to explain the improvements planned for his department and being a quick wit, his talk was enlivened with many funny anecdotes. Following the chief, the toastmaster called upon one of the lawyers present whose habit it was when talking to shove his hands deep into his trouser pockets.

The lawyer arose, assumed his customary pose and said, "Doesn't it strike this company as a little bit unusual that the fire chief should be so exceedingly funny?"

This angered the chief who immediately arose and said, Doesn't it strike this company as a little unusual that a lawyer should have his hands in h's own pockets?"

MORE THAN ONE WAY

The applicant who was being rushed through the medical examination following his application to join the fire department had fared badly that morning. The examiners had found several reasons why they thought he should not join the fire department, and the applicant was becoming surly.

The doctor asked him, "Do you smoke tobacco?"

"Did you ever hear of any one smoking anything else but tobacco?" inquired the applicant sarcastically.

The doctor adjusted his glasses and said, "Well, I have an uncle who smokes Ham."

THE ANSWER IS PLAIN

The following news item has been sent in by Arthur B. White:

Salford, England: Trying to light a cigarette in a high wind with a Christmas gift lighter, George McWhirter set fire to his luxuriant red beard.

His wife, too frightened to notice that McWhirter had quickly extinguished the blaze with his hands, turned in a fire alarm.

It was in the dock area, and six fire engines, forty firemen and twenty-five policemen responded. Angered, they offered McWhirter the option of paying $25 fine for turning in a false alarm or permitting them officially to "subdue" the whiskers with a fire extinguisher.

McWhirter is Scotch.

WELL TRAINED

Mamie: I was out with a fireman las' nite.

Mazie: Yeh? Didja have a nice time?

Mamie: Well—not egsactly; but we had lots of fun.

FIRE CHIEF IN JAIL

An amusing incident happened to congenial Chief Lutz of Wilmington, Del., and his host of friends in the fire service will hereafter have something to "kid' him about.

Stenographers in the fire department office and in the city hall became alarmed one day at the absence of Chief Lutz, and a search was started at once to see where he was or if he met with an accident. The latter was the proper hypothesis on which to work—he was found locked in a cell at the police station.

He had entered an unoccupied cell looking for quarters in which to store some supplies, and the lock on the cell door snapped shut. Being in an unused part of the city hall. his shouts for help were not heard, and had it not been for the searching party—oh, well.

WAS IT A HINT?

A very pretty girl started to cross the street when a pumper on the way to the fire turned the corner and just grazed her. A firemen was dropped off the apparatus to see if the girl was hurt. He asked her where she lived, so that he could enter it in his report.

"I live at 45 Eighth street—now don't you dare follow me.

FORSEEN

Fried: "I hear Hardupp's store burned last night. They say you could see the fire a long way off."

Banker: "Yes. I saw it six months ago."—*Life.*

Three New Books
Every Fire Officer
Should Have

Questions and Answers for Battalion and Deputy Chiefs

by Geo. J. Kuss, Former Deputy Chief N. Y. F. D., and Fred Shepperd, B. Sc., M. E., Managing Editor, FIRE ENGINEERING. It contains 210 pages of invaluable instruction for progressive fire department officers, and is indispensable for Captains, Battalion and Deputy Chiefs and other officers studying for promotion.

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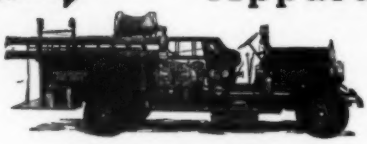

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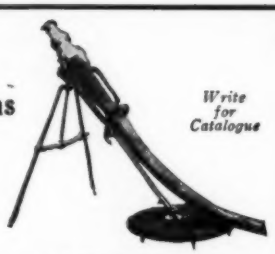

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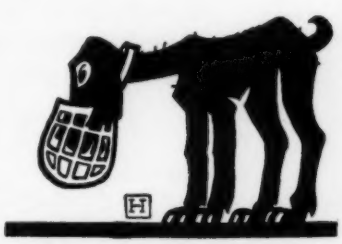

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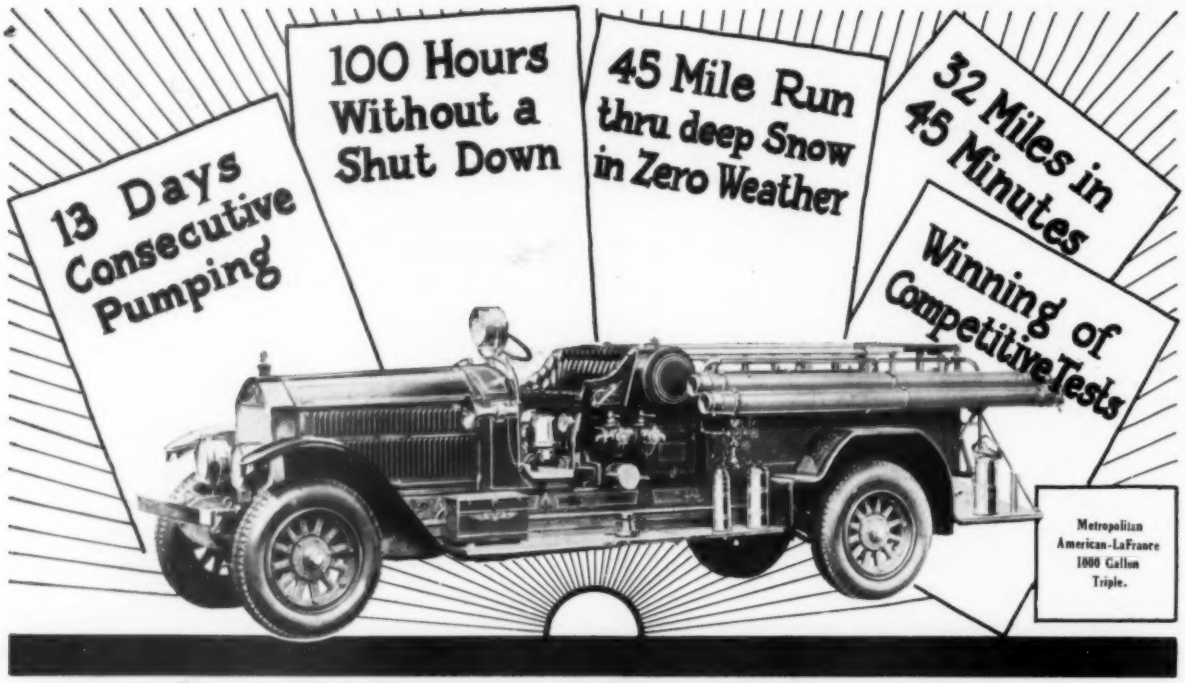
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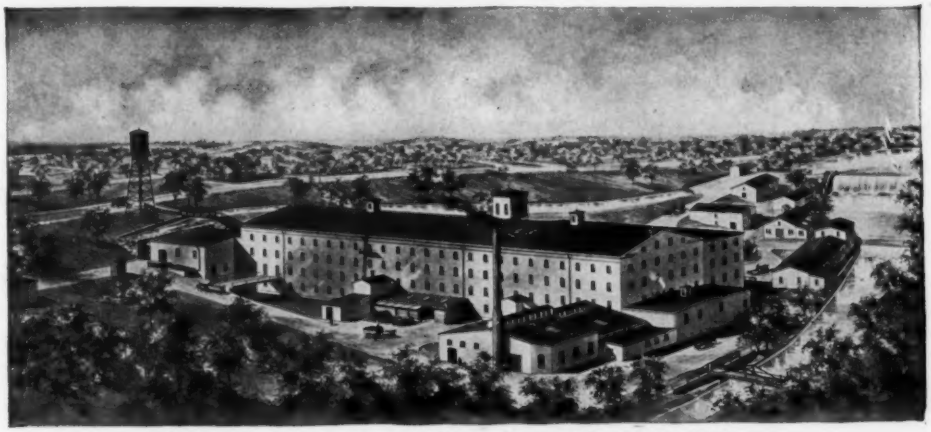

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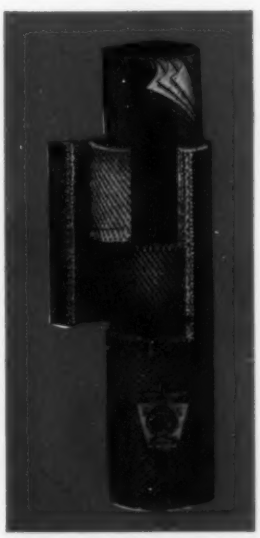

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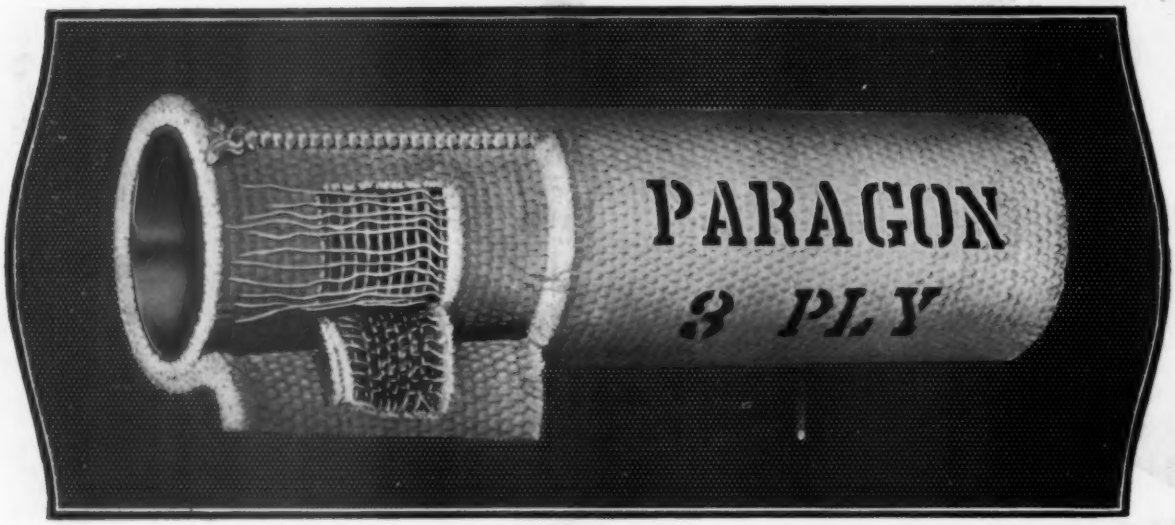

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